

Panaji, 24th April, 2015 (Vaisakha 4, 1937)

SERIES I No. 4

OFFICIAL GAZETTE

GOVERNMENT OF GOA

PUBLISHED BY AUTHORITY

EXTRAORDINARY

No. 2

GOVERNMENT OF GOA

Department of Power

Office of the Chief Electrical Engineer

Notification

120/03/JERC/MYT15-18/CEE/Tech/138

The Electricity Department, Government of Goa filed its petition for Annual Performance Review of ARR for FY 2014-15 and Determination of Aggregate Revenue Requirement and Retail supply Tariff for FY 2015-16 according to the Regulations and as per the procedures outlined in section 61, 62 & 64 of the Electricity Act, 2003 before the Hon'ble Joint Electricity Regulatory Commission for the State of Goa and Union Territories.

In exercise of the powers conferred under various sections of the Electricity Act, 2003, and all powers enabling therein on behalf of the Joint Electricity Regulatory Commission for the State of Goa and Union Territories has issued the Tariff Order dated 6th April, 2015 and subsequent addendum dated 16th April, 2015 which is effective from 1st April 2015 and shall remain valid till issuance of the next Order by Hon'ble JERC.

The above is hereby brought to the notice of the general public.

By order and in the name of the Governor of Goa.

Lekshmanan S., Chief Electrical Engineer & ex officio Additional Secretary (Power).

Panaji, 24th April, 2015.



TARIFF ORDER

Annual Performance Review for FY 2014-15,

And

Determination of Aggregate Revenue Requirement

And Retail Supply Tariff for FY 2015-16

Petition No. 160/2015

Petition No. 161/2015

For

Electricity Department, UT of Goa

**JOINT ELECTRICITY REGULATORY COMMISSION
FOR GOA AND UNION TERRITORIES**

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6th April, 2015

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Annexure 3	Public Notices published by the Commission intimating the date and place of public hearing on the ARR & tariff petition for FY 2015-16
Annexure 4	List of Objectors
Annexure 5	Letter from Government of Goa for Budgetary Support

ABBREVIATIONS

Abbreviation		Full Form
A&G	:	Administration & General Expenses
Act	:	The Electricity Act, 2003
ARR	:	Aggregate Revenue Requirement
CAGR	:	Compound Annualized Growth rate
Capex	:	Capital Expenditure
CEA	:	Central Electricity Authority
CERC	:	Central Electricity Regulatory Commission
COD	:	Commercial Operation Date
Commission	:	Joint Electricity Regulatory Commission for the State of Goa and Union Territories
CKt. Km	:	Circuit Kilometer
DISCOM/A&N	:	Electricity Department, UT of Andaman & Nicobar Islands
D/C	:	Double Circuit
DS	:	Domestic Supply
EA 2003	:	The Electricity Act, 2003
ED-Goa	:	Electricity Department of Goa
FC	:	Fixed Charges
FY	:	Financial Year
GFA	:	Gross Fixed Assets
GoG	:	Government of Goa
HP	:	Horse Power
HPP	:	Hired Power Plant
HSD	:	High Speed Diesel Engines
HT	:	High Tension
JERC	:	Joint Electricity Regulatory Commission for the State of Goa and Union Territories
kVA	:	Kilo Volt Ampere
kWh	:	Kilo Watt Hour

Abbreviation		Full Form
LPS	:	Late Payment Surcharge
LT	:	Low Tension
MU	:	Million Unit
MW	:	Mega Watt
MYT	:	Multi Year Tariff
NDS	:	Non Domestic Supply
NTPC	:	National Thermal Power Corporation
O/H	:	Over head
O&M	:	Operation & Maintenance
PLF	:	Plant Load Factor
RoE	:	Return on Equity
RPO	:	Renewable Purchase Obligation
R&M	:	Repair & Maintenance
SCL	:	Sanctioned Connected Load
S/C	:	Single Circuit
SBI PLR	:	SBI Prime Lending Rate
SPCL	:	Suryachakara Power Corporation Limited
T&D	:	Transmission & Distribution
UoM	:	Unit of Measurement
VAR	:	Volt Ampere Reactive
VC	:	Variable Charges

Before

**Joint Electricity Regulatory Commission for the State of Goa and Union Territories
Gurgaon**

Quorum¹
S. K. Chaturvedi (Chairman)

Petition No. 160/2015.
Petition No. 161/2015.

In the matter of

Approval of Business Plan for the MYT Control Period from FY 2015-16 to FY 2017-18

And

Annual Performance Review for FY 2014-15 and approval of MYT for the Period of FY 2015-16 to FY 2017-18 and Tariff Proposal for FY 2015-16

And

In the matter of

Electricity Department, Goa.....

Petitioner.

¹ As per Section 93 of the Electricity Act, 2003; no act or proceedings of the Appropriate Commission shall be questioned or shall be invalidated merely on the ground of existence of any vacancy or defect in the constitution of the Appropriate Commission. Therefore, Shri S K Chaturvedi the chairperson of the JERC constituted the valid Quorum for the public hearing in respect of the determination of the ARR & tariff for FY 2015-16, due to vacancy in the position of member at that time.

Order

Date: 6th April, 2015

1. INTRODUCTION**1.1 JERC Introduction**

In exercise of the powers conferred by Section 83 of the Electricity Act, 2003 the Central Government constituted a two member (including Chairperson) Joint Electricity Regulatory Commission for all Union Territories except Delhi to be known as "Joint Electricity Regulatory Commission for Union Territories" with headquarters at Delhi as notified vide notification No. 23/52/2003 – R&R dated 2nd May, 2005. Later on with the joining of the state of Goa, the Commission came to be known as "Joint Electricity Regulatory Commission for the State of Goa and Union Territories" as notified on May 30, 2008. The Joint Electricity Regulatory Commission for the State of Goa and Union Territories (Andaman & Nicobar Islands, Chandigarh, Dadra and Nagar Haveli, Daman & Diu, Lakshadweep and Puducherry) started functioning with effect from September 2008. Office of the Commission is presently located in the district town of Gurgaon, Haryana.

1.2 Electricity Department of Goa

The Electricity Department of Goa herein called ED-Goa, a deemed licensee under Section 14 of the Electricity Act, 2003, is carrying on the business of transmission, distribution and retail supply of electricity in the State of Goa. The ED-Goa is functioning as an integrated distribution licensee for the State of Goa.

Goa, a tiny emerald land on the west coast of India, the 25th State in the Union of States of India, was liberated from Portuguese rule in 1961. It was part of the Union territory of Goa, Daman & Diu till 30 May, 1987 when it was carved out to form a separate State. Goa covers an area of 3702 square kilometres and comprises of two Revenue districts viz North Goa and South Goa. Boundaries of Goa State are defined in the North by the Terekhol River which separates it from Maharashtra, in the East and South by Karnataka State and in the West by due Arabian Sea.

Goa, for the purpose of revenue administration is divided into two-districts viz. North and South Goa with headquarters at Panaji and Margao respectively. The entire State comprises 11 talukas. For the purpose of implementation of development programs, the State is further divided into 12 community development blocks.

1.3 JERC Tariff Regulations

The Commission, in exercise of the powers conferred upon it by the Electricity Act, 2003, has notified JERC (Terms and Conditions for Determination of Tariff) Regulations, 2009 for determination of tariff (hereinafter referred to as JERC Tariff Regulations). JERC has also notified JERC (Multi Year Distribution Tariff) Regulations, 2014. However, the Commission has taken a decision to postpone the applicability of these Regulations. These Regulations will now be applicable for determination of Tariff in all cases covered under these Regulations from April 1st, 2016 upto March 31st, 2018 (i.e. FY 2016-18)

1.4 Filing of Petition

The ED-Goa filed its petition for Annual Performance Review for FY 2014-15 and determination of ARR for MYT Period FY 2015-16 to FY 2017-18 and Retail Tariff for

FY 2015-16 in accordance with the above Regulations and as per the procedure outlined in section 61, 62 and 64 of the Electricity Act, 2003. The Petition was filed by the ED-Goa on 14.01.2015 and was received by the Commission on 20-01-2015.

1.5 Admission of Petition

After initial scrutiny and analysis of the petition, the Commission admitted the petition on Business Plan, ARR for MYT Period & tariff determination for FY 2015-16 to FY 2017-18 on 3rd February, 2015 and numbered them as petitions No. 160/2015, 161/2015 respectively. The Petitioner was directed to publish the summary of the ARR petition and the tariff proposal in leading newspapers of the State and upload the petition on its website. A copy of the Admission Order dated 3rd February, 2015 is annexed herewith as **Annexure 1** to this Order.

1.6 Interaction with the Petitioner

The staff of the Commission interacted regularly with the Petitioner to seek clarifications, additional information and justification on the various issues essential for the analysis of the tariff petition. The staff of the Commission and the Petitioner in the Commission's Office on 19-02-2015 also discussed key issues related to the petition, which included power purchase cost, estimated sales and revenue, etc. A technical validation session was conducted with the Petitioner during which discrepancies in the petitions and additional information required by the Commission were sought.

Accordingly, the following additional information /clarifications from the Petitioner were sought by the Commission vide letter dated 19-02-2015:

1. Break up at category wise and slab wise actual sales number of consumers and connected load for H1 and H2 separately for FY 2011-12, FY 2012-13 and FY 2013-14.
2. Copies of Annual Accounts for FY 2011-12 and FY 2013-14.
3. Unmetered Services: As per the orders of the Commission dated 12-11-2014 there are 935 unmetered services.

The program for metering the services;

4. Statement from SLDC/RLDC giving details of prevailing frequency at the time of transaction, UI charges paid/received and additional UI charges paid if any
5. Reasons for showing a negative value for the power supplied from an IPP within Goa
6. Copy of the Regional transmission account statement for Novemer-2014 as it was stated to be the basis for calculating the transmission charges fo r FY 2014-15 as well as the MYT control peri
7. Details of supplementary bills said to have been paid to NTPC
8. Details and break up of additional Income Tax pertaining to 2007 said to have been paid to NTPC stations.
9. In case of power purchase through trading, a statement containing name of agency, power purchased, total amount, trade margin paid etc., month wise for FY 2013-14 and FY 2014-15(H1) giving copies of the bills.

10. It is stated that future power allocation is there from the following plants to ED/Goa, with CODs in FY 2015-16 (P22 Of BP) and PPAs are executed.

A. Barh-II COD/12/2015

B. Ratnagiri (Dabhol) stage-II COD/12/2015

C. Kakrapar Atomic plant-(unit 3&4)-COD for Unit3-6/2015 and Unit-4-12/2015.

However, no power supply from these plants except from Barh-II is considered in the MYT control period ending in 2017-18.

11. Interstate transmission losses in the delivery of the power allocated from the stations located in the Southern region is considered at 12.5%, which is very high, Reasons may please be provided.
12. In the energy balance sheet of 13-14, (p 32 of the petition) the transmission losses are considered as 4.69%, whereas in FY 2014-15 they are considered at 5.43% considering the high losses involved during exigencies, when the allocated power from SR is transferred through WR. But the loss levels in the SR for the entire control period of 3 years is also considered at the level corresponding to the exigency (12%) (para 5.7.4 on Page 61 of the petition and 7.5 on page 78 of B.P) and total transmission losses are considered at 5.33%, 5.2% and 5.04% respectively (P 69 of the petition). Projections should be normal level and any exigency will be adjusted during True –up.
13. Capitalization of schemes projected during the control period (Table 62 on page 85 of BP) includes erection and augmentation of 33 KV S/S (item 5 of the table). The Scheme cost is Rs. 12.42 Cr; Expenditure proposed between FY 2014-15 to FY 2017-18 is Rs. 12.42 Cr. But amount proposed to be capitalized in FY 2014-15 is Rs. 20 Cr and that in FY 2016-17 and 2017-18 is Rs. 5 Cr totalling up to Rs. 25 Cr. How twice the amount of capital expenditure as well as estimated cost can be capitalized.
14. As stated on page 167 of the petition, an amount of Rs. 44,159 is paid to KAPS in June, 2013 under “Self-insurance fund @1.5 p/KWH for hot zone units”. The details of this may be furnished along with a copy of the approval for making such payments from the competent authority.
15. As seen from page 186 of the petition delayed payment charges were paid to RGPPL in 2014-15. A month wise statement of rebates obtained in the power purchase and late payment surcharge made to the generators, traders etc., may please be given month wise for FY 2013-14 and FY 2014-15(H1).

The replies to these queries have been provided by the Petitioner vide submission dated 20-02-2015 and 18-03-2015.

The various submissions made by the Petitioner have been discussed by the Commission at appropriate places in the Tariff Order along with the Commission's analysis on the same.

1.7 Public Hearing process

The Commission directed the Petitioner to publish the summary of the ARR and Tariff proposals in the abridged form and manner, as approved by the Commission in accordance with section 64 of the Electricity Act 2003. Accordingly, the notices were published by the Petitioner for inviting objections/suggestions on its petition from different stakeholders. Details of public notices issued are tabulated below:

Table 1.1: Details of public notice published by the Petitioner

S. No.	Date	Language	Name of Newspaper
1.	20.02.2015	Marathi	Gomantak
2.	20.02.2015	English	Times of India
3	20.02.2015	Konkani	Sunaprant

The Petitioner also uploaded the petition on its website (www.electricity.goa.gov.in) for inviting objections and suggestions on their petition. The Commission also uploaded the petition on its website (www.jercuts.gov.in).

Interested parties/stakeholders were requested to file their objections/suggestions on the petition on or before 27.02.2015. The copies of the paper cuttings of the public notice are annexed as **Annexure 2** to this Order.

Commission received one written objection/suggestion on the petition, by the last date for filing objections/suggestions i.e. 27th February, 2015.

The Commission scheduled the Public Hearing on 11th March, 2015 and again on 26th March, 2015.

1.8 Notice for Public Hearing

The Commission published public notices in the leading newspapers giving due intimation to the stakeholders, consumers, objectors and the public at large about the Public Hearing to be conducted by the Commission on 11th March, 2015 at Nalanda Hall, 5th Floor, EDC House, Dr. A. B. Road, Panaji, Goa for all consumers on Business plan and MYT Petition for FY 2015-16 to FY 2017-18. The details of the newspapers in which the public notices were published are as given below:

Table 1.2: Details of Public Notice Published by the Commission

S. No.	Date	Language	Name of Newspaper
1.	26.02.2015	Konkani	Sunaprant
2.	26.02.2015	Marathi	Gomantak
3	26.02.2015	English	O Herald
3.	10.03.2015	Marathi	Gomantak
4.	10.03.2015	Konkani	Sunaprant
5.	10.03.2015	English	O Herald

During the Public hearing conducted on March 11th, 2015, it was observed that the public response was not as expected by the Commission. Only two to three consumers gave their public representation and the Commission didn't receive hard copy of any objections prior to the hearing. Since this time the ED-Goa had projected a revenue gap of Rs. 929.49 Cr and a Tariff hike of around 19% which was higher as compared to earlier years, the Commission felt that more public participation was required and views of a large number of consumers were required in order to take a reasonable stand in terms of the Tariff hike and for proposing Regulatory Asset. Therefore, in an attempt to get better public representation to ensure fairness in tariff fixation the commission conducted another Public Hearing on March 26th, 2015.

The Commission published Public Hearing notices in the leading newspapers giving due intimation to the stakeholders, consumers, objectors and the public at large about the Public Hearing to be conducted again by the Commission on 26th March, 2015 at Nalanda Hall, 5th Floor, EDC House, Dr. A. B. Road, Panaji, Goa for all consumers on Business plan and MYT Petition for FY 2015-16 to FY 2017-18. The details of the newspapers in which the public notices are published were as given below:

Table 1.3: Details of Public Notice Published by the Commission

S. No.	Date	Language	Name of Newspaper
1.	18.03.2015	Konkani	Sunaprant
2.	18.03.2015	Marathi	Gomantak
3.	18.03.2015	English	O Herald
4.	25.03.2015	Konkani	Sunaprant
5.	25.03.2015	Marathi	Gomantak
6.	25.03.2015	English	O Herald

Copies of the public notice published by the Commission for intimation of public hearing are annexed as **Annexure 3** to this Order.

The Commission received comments/objections on the ARR filed by the ED-Goa. However, each stakeholder present during the public hearing was provided an opportunity to present his views on the petition filed by the Petitioner. The officers of the utility replied verbally on the spot to stakeholders who raised their concerns and objections. The list of the objectors is attached at **Annexure 4** to this Order.

The Commission examined the issues and concerns expressed by the stakeholders. The major issues discussed during the public hearing, the comments/replies of the utility and the views of the Commission thereon have been summarized in Chapter 4 of this Order.

1.9 Approval of the Business Plan

The ED-Goa filed the petition for Approval of Business Plan for Control Period FY 2015-16 to FY 2017-18 on 20.01.2015 under Regulation 12.1 of the MYT Regulation 2014. The Petitioner under Regulation 12.1 of the MYT Regulations 2014 was required to submit the Business Plan by 30.09.2014. The Commission under Regulation 13.1 of the MYT Regulation 2014 was required to approve the Business Plan within 30 days from receipt of the complete business plan. Thereafter, as per Regulation 12.2 of the JERC MYT Regulations the Petitioner was required to submit MYT Petition for approval of ARR and Tariff for the Control Period of FY 2015-16 to 2017-18.

The Petitioner failed to submit the Business Plan on or before 30.09.2014, therefore, the Commission directed the Petitioner to submit the MYT Petition for approval of ARR and Tariff for the Control Period of FY 2015-16 to 2017-18.

The Petitioner submitted both the Business Plan and the MYT Petition on 20.01.2015. The Commission analyzed the petitions. The petitions were found as per the Electricity Act, 2003 and Regulations framed there under. The petition for approval of Business Plan was admitted on 03.02.2015. The MYT petition was admitted on 03.02.2015.

The Commission on 03.02.2015 decided to club both the petitions for approval of Business Plan and approval of MYT ARR and Tariff.

The Commission sent Public Hearing notices to all the concerned stakeholders and public at large by publication in three Newspapers on 10.02.2015 and 26.02.2015 for the first Public Hearing on 18.03.2015 and 25.03.2015 for the second Public Hearing.

The Commission held a joint Public Hearing of both the petitions for approval of Business Plan and approval of MYT ARR and Tariff on 11th March, 2015 and again on 26th March, 2015 at Nalanda Hall, 5th Floor, EDC House, Dr. A. B. Road, Panaji, Goa.

The Commission analyzed the petitions, representations of the stakeholders and response received from the petitioner. The Commission observed that as per Regulation 22 (c) of the JERC MYT Regulations, the Petitioner is required to submit detailed supporting documents with the petition for approval of Business Plan. The supporting documents should include purpose of capital investment, capital structure, capitalization schedule, financing plan and cost benefit analysis. The Commission found that the Business Plan was not accompanied with these supporting documents.

The Commission also observed that some of the stakeholders in the Public Hearing represented that the petition for approval of the Business Plan should be filed by 30th September of the year prior to the commencement of the control period and after approval of the Business Plan the licensee should file the MYT petition. Therefore, the approval of the business plan is a prerequisite for filing the MYT Petition. But the petitioner did not file the petition for approval of Business Plan in time and filed the petition for the MYT before approval of the Business Plan.

Regulation 12.11 of the JERC MYT Regulations provides that in case of delay/non-submission of the application for approval of Business Plan and application of Determination of Tariff, as the case may be, additional information, the Commission may initiate Suo-moto proceedings mandating the filing of the petitions and if the petitioner fails to file the application the Commission may on its own decide tariff on the basis of previous year tariff details after incorporating suitable adjustments.

Regulation 9 of the JERC MYT Regulations provides that some of the controllable parameters determining tariff are linked with capital investment plan of the licensee. Therefore, approval of ARR on MYT frame work based on the capital investment plan submitted by the licensee without the supporting documents may affect the retail consumers adversely.

Regulation 38 of the JERC MYT Regulations runs as under

"If any difficulty arises in giving effect to the provisions of these Regulations, the Commission may, by general or specific order, make such provisions not inconsistent with the provisions of the Act, as may appear to be necessary for removing the difficulty."

In the light of the above facts and circumstances the Commission is of the opinion that it is not possible to approve the Business Plan for the control period FY 2015-16 to FY 2017-18 and consequently it is also not possible to approve MYT ARR and Tariff for the control period FY 2015-16 to FY 2017-18. Hence the Commission has decided not to implement the JERC (Multi Year Distribution Tariff) Regulations, 2014 as provided under Regulation 38 for the control period FY 2015-16 to FY 2017-18 and proceeds to approve ARR and determine Tariff for FY 2015-16 only under JERC (Terms and Condition for Determination of Tariff) Regulations, 2009.

2. Summary of the Review of FY 2014-15 and ARR Petition for MYT Control Period FY 2015-16 to FY 2017-18

2.1 Introduction

The Petitioner has not filed the True up petition for the FY 2013-14 owing to the non-finalization of accounts for the period. The Petition includes the Review for the FY 2014-15 and the Aggregate Revenue Requirement for MYT Period FY 2015-16 to FY 2017-18.

As specified in the Tariff Regulations, the Commission shall undertake the Review by considering variations between the approved and revised estimates/pre-actuals of sale of electricity, income and expenditure for the relevant year. Accordingly, ED – Goa has filed its Review for the year FY 2014-15 based on the actual performance during the 1st half of the year and the revised estimates for the second half of the year.

ED-Goa has filed the petition for the determination of Aggregate Revenue Requirement for the MYT Period FY 2015-16 to FY 2017-18 based on the past performance and expected changes in each element of cost and revenue for the ensuing year. ED-Goa, based on the past trends and taking cognizance of other internal and external developments, has estimated the performance for the Control period (FY 2015-16 to FY 2017-18).

As per the projections the total revenue gap for FY 2015-16 is Rs. 929.49 Crore. Additional revenue from revised tariff expected is Rs. 224.07 Crore. The balance revenue gap is Rs. 705.41 Crore. ED Goa proposes to create Regulatory Assets to the tune of Rs. 705.41 Crore as no Government budgetary support is expected. This revenue gap is to be recovered based on the mechanism decided by the Commission.

2.2 Summary of the Review for FY 2014-15 & ARR for FY 2015-16

The summary of the revised estimates for FY 2014-15 and ARR for the MYT Period FY 2015-16 to FY 2017-18 is shown in the Table below:

Table 2.1: Summary of the petition for Review of FY 2014-15 & ARR for MYT Period

S.No.	Particulars	FY 2014-15 Revised	FY 2015-16 Projection	FY 2016-17 Projection	FY 2017-18 Projection
1	Cost of fuel	-	-	-	-
2	Cost of Power Purchase	1,123.23	1,149.85	1,233.75	1,318.87
3	Employee costs	231.00	232.45	236.72	241.26
4	R&M expenses	44.33	37.30	52.80	79.26
5	Administration and General expenses	9.46	16.27	16.58	16.88
6	Depreciation	51.91	63.19	80.70	119.56
7	Interest on Loan & Finance charges	77.39	88.20	107.02	155.79
8	Interest on Working Capital	5.38	4.27	5.38	6.64
9	Interest on Security Deposit	8.16	8.27	8.37	8.46
10	Return on NFA /Equity	20.94	57.45	73.36	108.69

S.No.	Particulars	FY 2014-15 Revised	FY 2015-16 Projection	FY 2016-17 Projection	FY 2017-18 Projection
11	Total Revenue Requirement	1,572.33	1,657.26	1,814.68	2,055.41
12	Less: Non-Tariff Income	6.74	6.65	6.65	6.65
13	Net Revenue Requirement (11-12)	1,565.59	1,650.60	1,808.02	2,048.75
14	Revenue from Retail Sales at Existing Tariff including FPPCA Charges	1,090.71	1,136.95	1,180.52	1,226.16
15	Budgetary Support from GOG	59.04	-	-	-
16	Net Gap (13-14-15)	415.84	513.65	627.50	822.59
17	Energy sales (MU)	3,068	3,225	3,348	3,478
18	Average Cost of Supply (Rs/kWh)-(13/17)	5.10	5.12	5.40	5.89

2.3 Prayer to the Commission

- Accept the petition for Annual Performance Review of FY 2014-15 and Multi Year Tariff for the Control Period of FY 2015-16 to FY 2017-18 and Tariff Proposal for FY 2015-16 which is in line with the principles laid by Joint Electricity Regulatory Commission contained in MYT Regulations 2014 and Tariff Regulations 2009;
- Approve the Review for FY 2014-15 at Rs. 1,565.59 Cr, ARR for FY 2015-16 at Rs. 1,650.60 Cr, ARR for FY 2016-17 at Rs. 1,808.02 Cr and ARR for FY 2017-18 at Rs. 2,048.75 Cr;
- To consider the Tariff Design Philosophy and approve the proposed changes in Tariff Schedule (rationalisation of tariff categories & changes in applicability clauses) for FY 2015-16 which is in line with previous directions of Hon'ble Commission;
- Approve the proposed Revenue Gap of Rs. 929.49 Cr, Tariff Increase of Rs. 224.07 Cr and Creation of Regulatory Asset for balance revenue gap;
- Examine the proposal submitted by the Petitioner as detailed in the enclosed proposal for a favourable dispensation;
- The delay in filing this MYT Petition may please be condoned and the Hon'ble Commission is requested to accept this Petition and process the same;
- Pass suitable orders with respect to APR for FY 2014-15 and MYT for FY 2015-16 to FY 2017-18 for the expenses to be incurred by ED - Goa for serving its consumers;
- ED-Goa may also be permitted to propose suitable changes to the APR for 2014-15 and MYT for FY 2015-16 to FY 2017-18 and any such data/information related to it, prior to the final approval by the Hon'ble Commission of the petition submitted;
- Condone any inadvertent omissions/errors/shortcomings and permit ED – Goa to add/change/modify/alter this filing and make further submissions as may be required at a future date;
- Pass such further orders, as the Hon'ble Commission may deem fit and appropriate keeping in view the facts and circumstances of the case.

**3. Approach of the order for determination of Review for FY 2014-15 & ARR for
FY 2015-16 to FY 2017-18**

3.1 Introduction

The Commission has considered the Petition (Petition No. 161/2015) as per the JERC (Terms and Conditions of Tariff) Regulations, 2009 and MYT Regulations 2014. The Commission has considered the above Regulations pertaining to business of the integrated utility and the Commission was guided by the principles contained in Section 61 of the Act amongst other things to examine the sales forecast, power purchase quantum, self-generation and other income & expenditure.

The Commission has dealt with the Petition for the Review for FY 2014-15 and ARR for FY 2015-16 to FY 2017-18 in accordance with JERC Tariff Regulations. As per Regulation 13 of the JERC Tariff Regulations, the data for ARR shall comprise of the audited figures for previous year, estimates for current year and forecast for the ensuing year. In this case, the Petitioner was required to file the audited figures for FY 2013-14 for Truing up. Further, the True up for the FY 2012-13 is also pending due to the non-submission of audited accounts and corresponding True up petition by the Petitioner. However, the Petitioner has not filed the truing up Petition for FY 2012-13 and FY 2013-14. The Commission had set out certain directions in the Tariff Order dated 27th June, 2012 for FY 2011-12 to get the accounts prepared on commercial principles and get those audited. The directions were repeated in the subsequent Tariff Orders issued on March 31, 2013 and April 15, 2014.

The Commission does not appreciate the approach of the Petitioner towards the Directives issued. The Petitioner should understand the essence and requirement of the audited accounts. The audited accounts are much more than a regulatory requirement. They are the true and fair reflection of any business and are considered essential. Therefore the Commission has been repeatedly directing the Petitioner to submit the True up petition and audited accounts.

The Commission in this regard directs the Petitioner to conclude the audit of the accounts and file the True up for FY 2011-12, FY 2012-13 and FY 2013-14 before June 30, 2015. Non-compliance of the Directive would attract proceedings under Section 142 of the Electricity Act, 2003.

The Commission feels that the tariff determination process should not be stalled in the absence of the audited accounts for the FY 2011-12, FY 2012-13 and FY 2013-14. In the larger interest of the consumer and the licensee, the Commission has considered the Review of the FY 2014-15 and ARR for the MYT period FY 2015-16 to FY 2017-18.

In the determination of ARR & Tariff for the control period various provisions of the JERC's Tariff Regulations 2009 and MYT Regulations 2014 pertaining to business of the integrated utility are relevant and the Commission has been guided by the principles contained in Section 61 of the Act among other things to examine the sales forecast, power purchase quantum and other income & expenditure.

The Commission, while determining the tariff is guided by the principles contained in Section 61 of the Act, namely;

- a) The principles and methodologies specified by the Central Commission for determination of the tariff applicable to generating companies and transmission licensees;
- b) The generation, transmission, distribution and supply of electricity are conducted on commercial principles;

- c) The factors which would encourage competition, efficiency, economical use of the resources, good performance and optimum investments;
- d) Safeguarding of consumers' interest and at the same time, recovery of the cost of electricity in a reasonable manner;
- e) The principles rewarding efficiency in performance;
- f) Multi-year tariff principles;
- g) That the tariff progressively reflects the cost of supply of electricity and also, reduces and eliminates cross-subsidies within the period to be specified by the Appropriate Commission;
- h) The promotion of co-generation and generation of electricity from renewable sources of energy;
- i) The National Electricity Policy and tariff policy;

The Commission has considered the figures of income & expenditure as approved for FY 2013-14 in its order dated April 15, 2014 and revised estimates submitted by the Petitioner for FY 2014-15 to form the basis of projection for income and expenditure for the control period. Actual available figures for FY 2014-15 (first half) provided by the Petitioner and validated by the Commission during the technical validation session held after the submission of the petition have also been taken into account. The detailed analysis & treatment of each component is provided in Chapter 5 and 6 of this Order.

4. Summary of the objections/suggestions received, ED-Goa's responses and commission's views

4.1 Public response to the Petition

The Petitioner has published the summary of ARR and Tariff proposal in the newspapers, copies of the petition made available to the public and the petition posted on the website of the Petitioner duly inviting comments/objections/suggestions from the public as per provisions of the JERC (Conduct of Business) Regulations 2009. Electricity Department - Goa (ED-Goa) vide public notice dated February, 20th, 2015 published in various newspapers in Goa, invited comments from the consumers and stakeholders on the petition. Consumers/stakeholders also participated in the public hearing held at Nalanda Hall, 5th Floor, EDC House, Dr. A. B. Road, Panaji, Goa for all consumers on March 11th, 2015 and on March 26th, 2015.

4.2 Objections/Suggestion, Response from Electricity Department – Goa (ED-Goa) and Commission's views

4.2.1 Sri. Roland Martin, GOACAN Coordinator has raised the following issues

Issue 1: Tariff must be linked to services offered to consumer

Objections:

- a) Any tariff charged to the consumer must be linked to the services offered by the Service Provider to the Consumer. In case of the Electricity Department (ED Goa), being the sole service provider to the electricity consumers in Goa, it should be ensured that before any Order is passed by the JERC on the petition for a higher tariff, the (ED Goa) had fulfilled its obligations as per the Electricity Act, 2003 as well as the earlier Orders of the JERC.
- b) Just because (ED Goa) has a revenue gap of Rs. 929 crores, it cannot be allowed to transfer this burden on to the consumers. We cannot be silent spectators to the fact that, (ED Goa) gives consumers in Goa, this Rs. 929 Crore "TARIFF SHOCK" in phases by increasing the tariff in the next 2 years i.e. 2015-16 and 2016-17.

- c) In future, there may not be budgetary support from the Govt. of Goa (ED Goa) must address the issue of it becoming a Corporation and run its business with accountability and transparency.
- d) The argument that the Tariff has not been increased for the last ten years cannot be the basis for a necessary hike in tariff. Good financial management and cutting down of distribution losses is in fact the need of the hour for (ED Goa).
- e) Even today's newspapers have reported that the Central Government will respond in a positive way and provide Rs. 1200 crores to streamline power transmission and distribution in the State. Will this money figure somewhere?

Petitioner's Response

On the above issues raised above, the Petitioner has submitted the response as under:

- a) The service provided to the consumers by the licensee are regulated by the Commission and the Schedule III of JERC Standards of Performance (SOP) Regulations 2009 provide for compensation to consumers in case of default in services by the licensee.
- b) The revenue gap of Rs.929.49 Crores being claimed is for FY 2014-15 and FY 2015-16 (Rs. 415.84 Crs + Rs. 513.65 Crs).The revenue gap of Rs. 284.22 Crores for FY 2013-14 is not being claimed in this petition as financial statements are yet to be prepared. The same would be claimed once financial statements are ready and separate petition would be filed before JERC or may be merged with subsequent tariff filing petitions. The revenue gap has increased due to increase in power purchase costs, inflationary impact on O&M expenses and due to the impact of finalization of Fixed Asset Register from FY 2007-08 to FY 2012-13 vide para 4.9.2 of the MYT petition. The Commission in the T.O. for FY 2012-13 dated 27th June 2012 (page 65 & 66) had denied expenses of Depreciation, Normative Interest on Loan and Return on Equity in the ARR as Fixed Asset Register was not prepared by ED-Goa at that time. The Commission has considered "NIL" opening balance of Gross Fixed Assets (GFA) and ED-Goa had to forego its claim at that time

ED-Goa has now considered opening GFA as per finalized FAR and thus the claim in ARR has increased.

- c) With regards to Corporatization, ED-Goa is already studying pros and cons of implementation of Corporatization. The Commission may like to pass suitable directions in this regard.
- d) No Comments.
- e) Regarding the newspapers report that the Central Government will respond in a positive way and provide Rs. 1200 crores to streamline power transmission and distribution in the State, it is submitted that ED Goa has submitted a proposal for infrastructure development schemes such as IPDS and DDUGJY to the Central Government. The allocation is yet to be made by the Central Government.

The details of Capital Expenditure schemes and funding for the control period are provided at Table 62 of Business Plan petition (page 85).

Commission's Comments

The Commission has made note of the objections of the objector and submission of the Petitioner. The Petitioner has to provide service to the consumer as per standards of

performance (SoP) Regulations, 2009 which provide for compensation to consumer in case of default of services. Any default the consumer may bring to the notices of the Commission. Since there are other avenues to address the grievances of the consumers, the tariff revision cannot be linked to service. The Petitioner cannot provide reliable supply and services unless revenues are made available to the Petitioner to meet the expenses.

Issue 2: Consumer to pay for what is provided*Objection:*

When consumers do not get power why are they not being compensated? The Commission needs to get (ED Goa) to give a concrete assurance on the same when passing its Order on the petition.

Petitioner's submission

ED Goa has no independent energy generation of its own and is essentially dependent on power from Central sector allocation. Hence, any immediate outages of these power stations are beyond the control of ED-Goa and in such circumstances ED-Goa has to rely on power from exchanges/grid or apply load restrictions.

Also there are sudden interruptions due to trees etc. in rainy/windy days falling on the distribution network and such natural events are beyond its control. However, ED-Goa tries to restore supply in minimum time possible. JERC has already notified the SOP Regulations 2009 for claiming compensation for failure.

Commission's Comments

The submission of the Petitioner is noted. The Commission is allowing (ED, Goa) to purchase adequate power to meet the demand and provide continuous supply to the consumer. The ED – Goa should attend the problems, if any, at distribution level to provide reliable supply to the consumers. The consumers can claim compensation for failure as per JERC notified SOP regulations, 2009.

Issues 3: Fixed and Minimum Charges*Objection.*

Consumers are left clueless as to the basis on which these charges are being calculated. The Right to information seems to be ignored by (ED Goa). Many consumers are being arbitrarily charged for laying new power lines in their neighbourhood, but when challenged, the officials of (ED Goa) have had to back track. The Commission needs to ensure transparency and accountability from (ED Goa) before taking a decision on their petition.

Petitioner's submission

ED-Goa is levying charges as notified by the Commission in Tariff Order (for Retail Tariffs and Schedule of General & Miscellaneous Charges) from time to time. The charges for laying new service lines etc. are governed as per JERC Supply Code Regulations 2010 as amended from time to time.

Commission's Comments

The fixed charges component in the tariff is to recover fixed cost (capacity charge) in the generation Tariff and investment costs for developing the distribution network such as depreciation, interest etc., and O&M costs incurred by the licensee. For some consumer categories mostly residential consumers the fixed charges are recovered through monthly minimum charges.

Issue 4: Installation of new Electronic Meters*Objection:*

Hundreds of consumers are not being provided the documents, which has resulted in many consumers doubting the metering and billing procedure. Consumer Education by the service provider is a must but (ED Goa) has not taken any proactive steps in this matter.

Petitioner's submission

The basic information in this context shall be uploaded on the website of the Department. ED Goa also submits that it will provide full support to any person who is interested in holding such consumer awareness camps to educate consumers about meters, manuals, their working and safety practices and energy efficiency measures.

Commission's Comments

The objection and the submission of the Petitioner are noted. The Petitioner, ED-Goa should take steps to educate the consumers on the metering and billing procedure.

Issue 5: Meter Seals*Objection:*

While ED-Goa is constantly highlighting its losses, it does not have a system in place to curb the tampering of the meters. The practice of ensuring the seals for all the meters must be taken up by ED-Goa.

Petitioner's submission

The officials of the department give utmost importance to sealing of meters and their maintenance. There might be some incidents where seals are not on meters/damaged but ED Goa ensures that the meters are sealed and the same shall be maintained in future to curb any tampering with the meters.

Commission's Comments

The submission of the Petitioner, ED-Goa is noted. The ED-Goa should ensure that all the meters are sealed and penalize the consumers who have broken the seals,. Not having proper seals gives an opportunity to consumers to tamper meter and pilfer energy. ED-Goa should obtain a certificate from AEs in charge of distribution every month that the seals on all meters and the equipment in the Section/Sub-division.

Issue 6: Energy Efficiency*Objection:*

(ED Goa) as a service provider has a responsibility to encourage Energy Efficiency and even promote Bijli Bachao Campaign in co-ordination with BEE. Consumers in Goa have been denied this opportunity and thereby no effective power saving strategies have been put in place. Moreover such a campaign would save lakhs of rupees of the Consumers if ED-Goa as a service provider was pro active.

Petitioner's submission

That in reply to Point 6 and Point 8 of the objection, ED-Goa humbly submits it has already initiated the study under Demand Side Management (DSM) programme in Goa along with Energy Efficiency Services Limited (EESL). As per the JERC (DSM Regulations) 2014 of the Hon'ble Commission, a DSM cell has also been constituted and

load research study is being done. The detailed DSM Plan is under preparation and would be submitted to Commission after the load research study is completed.

Under DSM and energy efficiency measures, ED-Goa is examining the following two schemes:

- Replacing all street lights with LED`s
- DELP (DSM based Efficient House Lighting Programme).

Under these schemes energy efficient street lights/LEDs will be used in street lighting and consumers will be encouraged to use LEDs in their premises to improve the energy efficiency. JERC may like to pass suitable directions as deem fit.

Commission's comments

The action taken by ED-Goa in implementation of Energy efficiency measures are noted by the Commission. Apart from providing LEDs for street lights which save considerable energy. The ED-Goa shall focus more on implementation of energy efficiency measures on consumer end particularly Residential and Commercial consumers for replacing conventional lighting with LEDs and other energy efficient lighting and also energy saving appliances. The ED-Goa shall educate the consumers and assist the consumers in replacing conventional lighting system and appliances with energy efficient lighting and appliances.

Issue 7: Implementation of Various Orders of Bureau of Indian Standards

Objection:

(ED Goa) as a service provider also has a responsibility to implement the various Orders of BIS in terms of use of quality materials with ISI mark for electrical works in the Government and Non-Government sector as this would automatically ensure long lasting use. Neglect in this area by (ED Goa) is resulting in duplicate and fake materials being used, thereby resulting in financial losses and fires due to short circuit.

Petitioner's submission

ED Goa submits that it procures cables, materials for electrical works through a proper procedure i.e tendering and is ensuring quality of material/cables i.e ISI marked material as per technical standards and specifications laid down by appropriate authority.

Commission's comments

The suggestion of objector and submission of Petitioner are noted. ED-Goa should implement the orders of Bureau of Indian Standards in providing various meters and equipment and appraise to the Commission on action taken.

Issue 8: Consumer Education on the shift from CFL to LED

Objection:

(ED Goa) has remained silent on the need to shift from CFL to LED thereby depriving thousands of consumers the opportunity to reduce their power bills by using the right bulbs and other lighting materials in their homes and offices. The Commission needs to issue instruction in this matter as it is has the privilege of being the sole service provider and thereby has a monopoly.

Petitioner's submission

ED Goa also submits that it will provide full support to any person who is interested in holding consumer awareness camps to educate consumers about energy efficiency practices and measures.

Commission's comments

As commented earlier, the ED-Goa should focus energy savings at consumer end by replacing the existing conventional lighting system and appliances with energy efficient lighting system such as LED, CFL. The ED-Goa should also educate the consumers and encourage them to adopt energy efficiency system.

Issue 9: Safety of Consumers Workforce*Objection:*

Although GOACAN had highlighted this matter in the previous public hearing and the Commission had ordered that ED-Goa prepares a report to be submitted in one month, but nothing significant has emerged. Such a report would have pointed to areas where action needs to be taken.

Every year National Safety Week (4th to 10th March) and Fire Safety Week from (14th April) is observed in the country and Goa but ED-Goa has not been active in this field. For the safety of its workforce it is very important that ED-Goa becomes pro active. The recent rise of fire accidents linked to electrical lines in homes & offices is a wakeup call for ED-Goa to pay special attention and it takes-up an awareness drive.

Petitioner's submission

With regards to reports on fatal accidents, injuries, ED Goa humbly submits that it maintains the accident reports as well the details of compensation provided to the consumers.

With regards to National Safety Week in March & Fire Safety Week in April, ED Goa submits that in future it will nominate officials for the same and would be present in such meetings/forums.

Commission's comments

The suggestion of the objector and submission of the Petitioner are taken note by the Commission. Apart from maintaining the register of accident reports ED-Goa should ensure that accident do not occur. ED-Goa should investigate the reasons for accidents and take preventative measures to ensure that accidents are avoided. If the accidents are due to human error suitable action shall be taken on persons responsible to ensure such mistakes do not take place in future.

Issue 10: Help Line – Feedback to ED on damage to power lines, illegal power tapping etc.*Objection:*

While the introduction of the HELPLINE is a step in the right direction and must be appreciated, it is important that ED-Goa increases its ambit very specifically to take calls regarding possible damage to power lines & other infrastructure, illegal power tapping, street lights not working, streetlights being left on during the day and related matters. This type of feedback could be very crucial for ED-Goa in terms of cutting down losses and increasing revenue.

Petitioner's submission

ED-Goa would continue to improve its service

Commission's comments

The issues raised by the objector and submission by ED-Goa are noted by the Commission. ED-Goa shall see that the suggestions of the objector are implemented.

Issue 11: Protection of Infrastructure like Power Stations, HT & LT lines*Objection:*

ED-Goa must look at the protection of its infrastructure as vital to its plan to cut losses, protect its assets and gain the good will of its consumers. ED-Goa must put in place in 2015-16 an area wise protection plan in place i.e at the level of the Transformers and beyond where in the Consumer is seen as a partner and not just a bill paying consumer.

Petitioner's submission

ED Goa takes appropriate measures to protect its installations and the assets therein. The infrastructure and the working conditions of equipments and transformer centers are periodically checked by the maintenance staff of all the divisions in their respective areas, for better performance. Also safety hoardings/danger boards are put in place to avoid any accidents.

Commission's comments

The action taken by ED-Goa is noted by the Commission.

Issue 12: Need to work together with Fire & Emergency Services & District Disaster Management Committee*Objection:*

The losses to the infrastructure of ED-Goa in terms of power lines during the monsoons and the subsequent storms and the resultant power cuts need to be reviewed. There is a need for close co-ordination with other Departments but the ED-Goa must have its exclusive District Rapid Action Teams properly equipped for these eventualities with necessary backup maintenance team functioning 365 days so that the vehicles, pulleys, ladders, cutters, mobile generator operated flood lights etc are ready to use at any given moment.

This effort by ED-Goa itself will cut down losses and improve finances in the years ahead.

Petitioner's submission

ED Goa would positively co-ordinate with other Departments for rapid rectification of faults and supply restoration for increasing consumer satisfaction.

Commission's comments

The ED-Goa should co-ordinate with the departments suggested to prevent damage to electrical installation etc., and should be fully equipped to attend to any emergency on top priority in order to reduce the interruption of supply and restore supply without loss of time wherever damages occur.

Issue 13: Underground Cabling: right step but requires maintenance & safety*Objection:*

ED-Goa must see underground cabling as an important step to cut transmission losses and better service to its consumers. If it fails to work with the local self governing bodies like Village Panchayats & Municipal Councils and take them into confidence for the maintenance & safety then it will face losses in the near future. Constant digging of the roads in these areas has resulted in damage to underground cables as no maps of these lines are available in the local area. Huge expenditure with Central Government assistance on such infrastructure needs to be seen as an investment for the future which

will become a liability if ignored and result in the consumer facing the brunt of a tariff hike in the future.

Petitioner's submission

ED Goa submits that for fault rectification in case of underground cables, digging of roads is undertaken with prior permission/NOC of local self governing bodies like Village Panchayats & Municipal Councils.

It is submitted that several infrastructure schemes have been proposed in the Capital expenditure plan for the control period, for improving the underground cable network as can be seen from Chapter 8 of Business Plan.

Commission's comments

The submission is noted by the Commission. It is advisable to go in for underground cable system but it should be with consent of Municipal Council etc., to prevent any damage by the other departments, while carrying out their works.

Issue 14: Non-refund of expenses incurred by consumers on items meant to be supplied free of charge*Objection:*

Hundreds of consumers are being denied the benefit of the 30 metres free cable from the pole to the house and are being forced to buy the same from the open market without being given a refund. The systematic harassment that is being meted out to the consumer in this matter was highlighted by GOACAN in the earlier 'Hearing' but despite instructions from the Commission no effective steps are being taken. Appropriate Orders be issued and refunds be provided at the earliest.

Petitioner's submission

ED-Goa humbly submits that it adheres to JERC Supply Code Regulations 2010 and prevailing Tariff Orders for levying any charges related to connection/laying lines etc. It is submitted that in case any consumer observes such case the same can be brought to the notice of Consumer Grievance Redressal Forum (CGRF) and initiate proceedings as per JERC CGRF Regulations 2009.

Commission's comments

The objection by the objector and submission by the Petitioner are taken note by the Commission. ED-Goa shall implement Supply Code Regulations, 2010 strictly to avoid such complaints,. In cases where the Regulations are not implemented the ED-Goa should take prompt action without driving the consumer to CGRF.

Issue 15: Delayed Billing and frequent changes in the Billing contractors are a burden to the Consumer*Objection:*

The constant delays in raising monthly bills by ED-Goa has become a headache and financial concern for an average consumer. Bills being delayed for 4 months at a time and resulting in wrong calculations has only turned the consumer into an adversary of ED-Goa. The Commission must instruct ED-Goa to put its house in order with regards to the billing process so that money that is due to be paid is received in time by maintaining a uniform billing process without constant changes in the contractors undertaking the task of generating bills.

Petitioner's submission

ED-Goa submits that the meter reading, billing and collection process is being streamlined and is going through a transformation phase. As pointed out by GOACAN, in the past it was maintained by several different outsourced agencies separately in each division and each agency had its separate logic for calculation and bill generation. However, now a common agency (M/s. Goa Electronics Ltd) has taken over all the billing process for HT and LT consumers from December 2014 and a common process is being followed for all the divisions to avoid ambiguity in the process and data. It is expected that process would get streamlined by April 2015.

Commission's comments

The submission of ED-Goa is noted. As committed the ED-Goa should streamline the meter reading, billing and bill serving system by April, 2015 and see that no complaints are received from the consumer. Any complaint should be promptly attended. The ED-Goa shall also submit a report to the Commission on the implementation of the streamlined system.

Issue 16: Plugging of leakages in Illegal Tourism Sector*Objection:*

While Goa has a resident population of around 15 lakhs, it receives nearly 50 lakh tourists (domestic & foreign) annually. A large number of rented accommodation & food & beverage outlets paying domestic power charges are being put to use in the illegal tourism sector by cashing in on huge rentals in foreign currency thereby creating a revenue loss to ED-Goa. Instead of a tariff hike and transferring the burden on to the honest bill paying consumers, ED-Goa needs to work with the Department of Tourism, collect economic intelligence and plug the financial leaks. ED-Goa has till date not appointed nor announced its willingness to set up a Vigilance & Revenue Recovery Teams for North & South Districts of Goa.

Petitioner's submission

ED Goa officials at site try to identify such cases on regular basis where consumers paying domestic power charges are using their houses as rental places for tourists. Once such cases are verified, their category is changed from Domestic to Domestic Mixed category which has a higher tariff as proposed in the tariff schedule. However it is practically difficult to enter all residential premises and undertake such checkings. ED-Goa would appreciate and provide full support if such specific cases are brought to the notice.

Commission's comments

The suggestion by the objector and the submission of the ED-Goa are taken note by the Commission. The tourism of Goa is a regular phenomena in Goa, it should not be difficult to identify the residences that accommodate tourists and bill such premises at relevant tariff as that will provide additional revenue to the Petitioner. The Petitioner shall bill such accommodation/consumer at relevant tariff rates.

Issue 17: Consumer Grievance Redressal Forum (CGRF) needs to be made effective*Objection:*

In the present petition, ED-Goa has shown a proposed increase in the expenses to be incurred on CGRF but has failed to implement the Order of the Commission to make the CGRF more effective. Its present permanent location in Vasco has made it inaccessible to the Consumers of the whole of Goa. ED-Goa needs to take a call on this issue at the earliest, if not Consumers will opt for other avenues for grievance redressal which in the long term will be costly for ED-Goa.

Petitioner's submission

ED-Goa submits that Consumer Grievance Redressal Forum (CGRF) has been established in Vasco area and consumers can file their grievance there. ED Goa also submits that to facilitate ease to consumers, it accepts any grievance complaints at any of its offices (head offices or division/sub division offices, SE I and SE II have been appointed the grievance officers for North and South Circles respectively) and can also provide full support to any person who is interested in holding such consumer grievance camps/venues.

Commission's comments

The submission of the Petitioner is taken note by the Commission. ED-Goa itself should conduct such programmes to educate consumers on the function of CGRF and that CGRF works more efficiently and direct all its officers to be more consumers friendly in attending their problems/issues.

Issue 18: Recovery of losses for damage done to underground cables*Objection:*

The underground electricity cables were damaged (as seen yesterday) during the digging works undertaken by the PWD. If the Electricity Department is keen to cut its losses then it must put in place a procedure of filing an FIR at the nearest Police Station and then follow it up by approaching the DRO at the Dy. Collector level to recover the cost of the damage done.

Petitioner's submission

Such incidents happen as network of electricity, water works, telephones, gas pipelines etc. are laid next to each other/beneath each other without a earmarked corridor. ED-Goa tries to maintain proper coordination/communication with other departments regarding the same to avoid any such incidents. Any way the matter will be taken with Government to take necessary corrective measures.

Commission's comments

The submission of the ED-Goa is taken note by the Commission. ED-Goa should approach the Municipal Authority and other departments to co-ordinate with them to prevent any damage to the underground cabling. The issue may be brought to the notice of the State Government to issue suitable instructions to all concerned.

Issue 19: Problems faced by the Electricity Engineers must be addressed first before the Tariff Hike*Objection:*

The Marathi newspaper 'Tarun Bharat' report dated 25th March, 2015 highlights the dissatisfaction and the problems faced by the Electricity Engineers. It is important that the Electricity Department must address these issues before going for a Tariff Hike. If Electricity Department the sole electricity provider has to deliver to the consumers then it must put its house in order. Success of the new infrastructure projects, revenue recovery and other plans of the Department will depend on the morale of the officers which in turn is crucial for the Department to cut its losses.

Petitioner's submission

ED Goa submits that this issue is not in the preview of MYT/ARR petition and the same will be handled administratively within the department.

Commission's comments

The submission of ED-Goa has taken note by the Commission.

Issue 20: Subsidies given to certain categories of consumers must come from Govt. Budgetary support & not a tariff hike*Objection:*

The Department has been giving certain categories of consumers subsidies and this amount must come from Govt. Budgetary support. The Department in its petition has remained silent on this issue and it is necessary that a proper explanation is provided. Just because the subsidies are included in the revenue of the Department it is not justified that they transfer this burden on to the honest bill paying consumer with a tariff hike.

Petitioner's submission

It is submitted that ED-Goa cannot comment on the statement/financial matters pertaining to other Govt. Departments. However, many categories of electricity consumers, including the domestic consumers who are raising this issue, are themselves beneficiary of cross-subsidy as per tariff policy. Cross-subsidy is acceptable even under tariff policy within specified limits. No budgetary support has been promised this time by the Government and had it been announced, the benefit would have gone to reduce the regulatory assets proposed here.

Commission's comments

Budgetary support is being provided by the State Government for subsidizing the tariff of certain category of consumers so that the subsidy burden is not passed on to other consumers. The Commission is also making efforts to reduce the cross subsidy to some extent so that the consumer tariff will be within $\pm 20\%$ of average cost of supply as per Tariff Policy and introduce the tariffs based on the cost of supply over a period of time.

Issue 21: Goa is a small State with one of the lowest tariff should not be the basis for justifying a tariff hike*Objection:*

The Department in its petition seeks to compare Goa's tariff with that of some of the larger States in the country. Its population size, consumer base, huge tourist influx and the fact that the Department as a service provider has still not become a Corporation must be points that need to be addressed. In fact being a small State, the Department as a service provider should have been able to cater to its consumers in an effective manner with the least amount of losses.

Petitioner's submission

ED-Goa submits that it has one of the lowest power tariff in the country. Neighbouring States are also levied same tariffs for Power Purchase from NTPC stations and Transmission charges by PGCIL. They also have own generation and transmission system and this should rather lower weighted average of the cost of power purchase for them. Location of generating units also reduces transmission losses for those States, unlike that in Goa. States such as Chhattisgarh are rich in Coal mines and so they gain from cheaper generation cost. Dadra, Nagar & Haveli have 97% Industrial consumers which means lower losses, lower maintenance, highest collection efficiency. Despite all such factors and a general view of keeping tariffs of subsidized consumers at lower level, the proposed tariffs for ED-Goa are lower. They are even lower when compared to 50% reduction considered by Delhi Government recently in case of domestic consumers.

In fact a smaller scale of operation increases per unit cost of operation since the minimum fixed costs are spread over a lower sale volume in terms of units. Also, per capita electricity consumption of Goa is high compared to other states in India i.e. approx 2000kWH (source: Per Capita Power Consumption in 2011-12: Infra Line Website) compared to India average of 917kWH (source: CEA website <http://www.cea.nic.in/reports/planning/dmlf/growth.pdf>) which provides for more power requirement for a smaller area. This increases marginal cost of power purchase for Goa.

The Consumer Price Index (CPI) Inflation of Goa for FY 14-15 is 261.91, much higher than the average CPI of India 250.45 (source: <http://labourbureau.nic.in/indtab.pdf>); hence the need for tariff hike is much more in Goa compared to other States. Incidentally, most of the commodities for consumers are costly in Goa in comparison to other states, except for electricity.

It is incorrect to say the efficiency of operations are lower since Goa's AT&C losses are on a relatively lower side. Further, department is taking steps to ensure there is no Peak Load Restrictions (PLR). Since November last year, there has been almost zero PLR.

Commission's comments

The suggestion of the objector and submission of ED-Goa are taken note by the Commission. The Commission will take appropriate decision on revision of tariffs taking all factors into consideration.

4.2.2 Issues raised by Dr Arvind Almeida

Issue 1: Information on standards of performance

Objection:

As per the Goa Gazette Series I No. 15 dated 12th July, 2012, department was requested to provide its performance standards with regards to;

- a. Distribution losses: I had specifically made an observational remark that the distribution losses made in the year 2013 was 12.75% and the recommendation by the JERC then was to achieve lower distribution losses and I was horrified that the distribution losses for the current time has been pegged at 15.5%.
- b. The standard set by JERC for electricity to the consumers was at 220 volts +/- 6 but the department supplies electricity at 180 and 160 volts thereby increasing the load heating up the induction coils of various electric gadgets and causing an increase in consumption of electricity.
- c. Distribution transmission failure Indices: I further queried the department of the SAIDI and MAIFI and they do not have any detailed report of the same village wise, while as per the gazette they are supposed to have filed the same in your office every month.

Petitioner's submission

It is submitted that the SOP Regulations 2009 are available at the website of JERC with the link below:

<http://www.jercuts.gov.in/writereaddata/Files/SOP%20final%20member.pdf>

ED-Goa has already clarified matter related to distribution loss in the petition at para 2.4.

ED-Goa would also like to submit that many assets are vintage, some have long distribution lines and in remote rural areas, low voltage, fluctuations might occur. However, the Department is already working on strengthening the system through schemes like IPDS/DDUGJY to take care of this problem. However, if the Department is

unable to raise revenue through tariff hike, it may lack the resources to carry out the much needed investments. This could only lead to deterioration in losses and hence the Department earnestly request the JERC to permit us the tariff hike to help us attend to rising aspirations of consumers. Moreover, the Department has already admitted in its tariff petition that the loss figures reported earlier were estimated figures and not correct figures. The Department is expected to be in a position to accurately estimate losses by end of March 2016 by which time the RAPDRP Part B scheme is likely to be completed.

It is submitted that ED Goa does maintain division-wise Reliability Indices data on monthly basis, which provides for the no of interruptions/trippings, transient faults, planned shutdown etc along with the duration of each interruptions.

Commission's comments

The objections/suggestions of objector and submission of ED-Goa are noted by the Commission. The ED-Goa has to maintain supply as per Standards of Performance (SoP) Regulations of the Commission. The ED-Goa has to compensate the consumer the loss occurred due to not implementing the SOP. ED-Goa should ensure that supply is maintained as per SoP. Suitable instruction shall be issued to all concerned officers.

Issue 2: Theft of Power*Objection:*

If any case was registered in the past 1 year for theft of Power, why this was not highlighted in the presentation. There was no reply, but the gathering at large claimed that there was broad daylight robbery

Petitioner's submission

ED-Goa submits that steps are being taken to control theft of power. MRT (Meter Relay Testing) and Vigilance does routine inspections to check cases related to overdrawal or bypassing of meters. Also the maintenance staffs keep an eye on the network to identify such cases of line tapings etc. ED-Goa would also encourage and appreciate the consumers coming forward and reporting of such cases.

Information pertaining to individual theft cases etc. is available in division offices and would be submitted to Commission if desired.

Commission's comments

The submission of ED-Goa is taken note by the Commission. ED-Goa shall strengthen its vigilance organization to minimize the theft/pilferage of energy. ED-Goa should implement high voltage (11 KV) distribution system to prevent tapping of line and supply by the consumer.

Issue 3: Hike in Tariff

In 2013 there was a hike in Tariff along with certain recommendations by JERC which had to be done, which has been again overlooked by the ED-Goa.

Petitioner's submission

ED-Goa submits that it adheres to all the directives given by the Hon'ble Commission in its tariff orders. However, certain issues such as preparation of financial statements etc., have taken time to complete and are in progress. However, the Department is working all out to streamline the processes and systems.

Commission's comments

The Commission will examine submission of ED-Goa, suggestions of stake holders and take appropriate decision on the revision of tariff.

Issue 4: Audit has not been shown to the public*Objection:*

The Audit was not made public as yet and unfortunately we heard that the Audit will be completed in September. What about FY 2013-2014, since the last Audit done by the department was in the year 2013 for a period from 2008-2013, there is no web page display of the audit to the consumers.

Petitioner's Response

It is submitted the documents such as Financial Statements and Fixed Asset Registers shall be uploaded on the website once the final certificate from Govt Auditors is received for the works completed.

Commission's comments

The submission of the ED-Goa is taken by the Commission. The financial statements and Fixed Asset Register etc., may be kept in website after the certificate is received from the State Government.

Issue 5: Irregular Billing*Objection:*

There was gross irregular billing leading to losses in revenue by the department. Bills are received after 6 months sometimes.

Petitioner's Response

ED-Goa has already submitted in the petition that it is in the process of streamlining its billing and collection of data. In the past it was maintained by several different agencies separately in each division and each agency had its separate logic build up for bill calculation and bill generation. Now a common agency M/s GEL has taken over all the billing and collection of data for HT and LT consumers and a common process is being followed for all the division to avoid ambiguity in the process and data. While this streamlining and transformation, a lot of errors in the data have been found and the error rectification process is going on. ED-Goa has a total of 525 meter readers at present and it has recruited 233 of them during FY 2014-15 to streamline the meter reading process, so that bill generation and distribution can be improved and done on monthly basis.

The process is expected to be completely set in order by end of May 2015 and by that time periodic bills will be issued to all consumers with an outer billing cycle of 60 days.

Commission's comments

The action taken by ED-Goa on the steps taken for streamlining the meter reading, billing system etc., is taken note by the Commission. This should be implemented from 1st April, 2015 and the improvement reported to the Commission by December, 2015.

4.2.3 Objection:

Harnessing Solar energy in the Electricity Departments

Petitioner's submission

ED-Goa has already started work with Goa Energy Development Agency (GEDA) on the feasibility of roof-top solar power generation with grid connectivity in Government buildings. However, we would like to submit that at present per unit cost of solar power is much higher than conventional power.

Commission's comments

Irrespective of cost, the ED-Goa shall meet the RPO obligation. ED Goa may either set-up solar and non solar installations by itself or enter into an agreement with an outside agency to supply solar and non solar power to it, to meet the RPO obligation.

4.2.4 Issues raised by Ms. Marie D`Souza, ALDONA CIVIC AND CONSUMER FORUM**Objection 1:**

The Electricity Bills very often are given to the Consumers only after 3 or 4 months and this makes it a burden on them to pay the Bill.

Suggestion: The Electricity Bill should be given to the Consumers every Month, or an option is to be given to the Consumers to pay the Bill in instalments.

Petitioner's submission

ED-Goa has already submitted in the petition that it is in the process of streamlining its billing and collection data. In the past it was maintained by several different agencies separately in each division and each agency had its separate logic build up for bill calculation and bill generation. Now a common agency M/s GEL has taken over all the billing and collection data for HT and LT consumers and a common process is being followed for all the division to avoid ambiguity in the process and data. While this streamlining and transformation, a lot of errors in the legacy data has been found and the error rectification process is going on. There are bound to be some transition difficulties and the billing process has been quite streamlined now. In fact, the Department has lost money by way of interest for late raising of bills and which has effectively gone to pockets of consumers. Also, wherever consumers have approached the Department they have also been allowed to pay in instalments in case the consumer got a lumped bill for number of months.

ED-Goa has a total of 525 meter readers at present and it has recruited 233 of them during FY 2014-15 to streamline the meter reading process, so that bill generation and distribution can be improved and done on periodic basis, with an outer frequency of two months billing cycle.

That said the Department undertakes to take further necessary corrective measures suo-motto to streamline the system.

Commission's comments

As commented earlier the streamlining of meter reading, billing and bill serving shall be completed by April 2015 and a report shall be submitted to the Commission on the working of the system by December 30th, 2015.

Objection 2:

Every few months the Format of the Bill is changed making it difficult for the Consumers to understand what they are paying for. Also FPPCA and Meter Rent vary in every bill. Why?

Keep only one format for the Bill. The Commercial Officer when requested to attend a Consumer Meeting in a Village to explain what the Consumers are paying for, should make her/him self-available to respond to that request. Consumers have the right to be informed.

Petitioner's submission

As mentioned, in the past billing and collection was maintained by several different agencies separately in each division and each agency had its separate logic for bill

calculation and bill generation. Hence there might have been separate formats of bills for each agency. However, now a common agency M/s GEL has taken over all the billing and collection data for HT and LT consumers and a common process is being followed for all the division to avoid ambiguity in the process and data and a common billing format is being followed throughout Goa.

The purpose of Fixed charges, FPPCA are well explained by Hon'ble Commission in the MYT Regulations and/Tariff Orders. Meter rent is charged as per the approval of JERC.

Commission's comments

As stated above the streamlined billing system shall be introduced by September 30th, 2015 and report submitted to the Commission on its working by December 30th, 2015. The fixed charge component in the tariff is for recovery of fixed cost / capacity charges to be paid to the generator and investment costs such as depreciation, interest etc. for development of distribution network. Meter rent is collected as approved by the Commission.

Objection 3:

When their Meter was not working and needed to be changed, the Consumers were asked to buy new ones from the open market and get it tested by the Electricity Department and pay for the test. Actually Meters were available in South Goa.

There has to be better coordination within the ED-Goa itself. In the above cases the Consumers who had bought the Meters in the open market should have been reimbursed or rent should not be charged in the bill given to them.

Petitioner's submission

ED-Goa submits that as per JERC Supply Code Regulations clause 7.3, the Department itself procures and installs meters at consumer's premises for new connection/meter replacement. However, the consumers have the option for requesting to purchase the meter from open market for installation and they have to get the meters tested by the department before installation. In such cases no meter rent or security is taken from the consumers. It is submitted that if any such cases are there, ED Goa would request/advice such consumers to contact division office for appropriate action and/or CGRF in case the issues are not resolved.

Further, in future the consumers would be given an option to source own meter only in case of exigency when the meter is not available with the Department.

Commission's comments

The submission of ED-Goa is taken note by the Commission. The Commission expresses concern on such matters. The Commission would also direct the ED-Goa to compile such cases and report to the Commission. Further such cases should not be repeated in future.

Objection 4:

In some cases new electronic meters were installed but consumers were not provided with the Manual, Test Report and Warranty Card. This has led to plenty of misunderstandings regarding these electronic meters and Consumers wondering why suddenly their Electricity Bills have increased.

All consumers who have, in the recent past, been fitted with electronic meters should be given the Manual, Test Report and Warranty Card.

Petitioner's submission

ED-Goa submits that as specified in the JERC Supply Code regulations, the meters are the property of the Departments i.e. owned and maintained by the Department itself. Hence, the Warranty Card, Test Reports are kept by the department itself.

However, if a consumer wants to review that same for their meter, he can approach the division offices and same can be provided on request.

With respect to educating the consumers regarding the electronic meters and their working is concerned, ED Goa submits that it will provide full support to any person who is interested in holding such consumer awareness camps to educate consumers about meters, manuals, their working, safety practices etc. such education would also be given to individual consumer who seeks such information at time of meter installation.

Commission's comments

The ED-Goa itself shall educate the Consumers on the working of the meters to remove any apprehensions on the working of the meter. This may be organized at division/sub division level.

Objection 5:

When an electrical item (e.g. a pin) needs to be replaced, Consumers are faced with the peculiar problem that the new one does not fit into the old socket though both items are from the same manufacturing company (e.g. Anchor).

All electrical goods manufactured by any manufacturing company in India should be required to follow established standards set by BIS. For this JERC should coordinate with BIS to establish standards and Certification for all electrical equipment's and goods. Presently there is certification for only a few electrical equipment's.

Petitioner's submission:

It is submitted that such standards are laid in the JERC Supply Code Regulations for the wiring etc. and/or Bureau of Indian Standard (BIS) standards and Indian Electricity (IE) Rules 1956. Due standards and specifications are followed for Departmental procurement. However, the Department has no control of appliances/equipment's available in market or inside consumer premises.

Commission's comments

The submission of the Petitioner is taken note by the Commission.

Objection 6:

Every monsoon brings with it a shutdown of power sometimes for hours together. Power Shutdown is not an event of Nature but rather shows up the inefficiency of the Electricity Department in not preparing itself for the annual cycle of nature. As a result consumers face destruction of their electrical equipment.

While uprooting of trees and lightning strikes cannot be controlled by the Electricity Department, yet checking whether guard wires are in place and over-hanging branches chopped should be part of the regular work that, in Goa, should start in April. In residential areas underground electrical cables should be placed in consultation with the Panchayat/Municipality and a copy of the Plan given to the Civic Body.

Petitioner's submission

ED-Goa would like to submit that it proactively prepares for monsoon seasons and does the survey of the network especially in the areas with more trees etc. which

are more prone to trippings during the season and tries to trim the trees, however during monsoons and strong winds (natural events and uncontrollable) such faults do occur and ED Goa tries its best to restore the supply in the minimum time possible.

It is also planning to undertake investments to improve the quality of infrastructure, including underground cable laying work. ED Goa requests that its tariff hike petition be accepted so as to enable it to generate funds for investment.

Commission's comments

The objection and the submission of the Petitioner are taken note by the Commission. The ED-Goa shall conduct the inspection of the distribution lines etc. and get the tree clearance done before the monsoon so that there will not be any tripping of lines due to tree branches etc., touching the lines. ED Goa shall also organize fully equipped team to attend the emergencies during monsoon to restore supply quickly without loss of time.

Objection 7:

Street lights remain lit for a long time after sunrise, in some areas even after mid-day. Complaints seem to have no effect.

Linesmen who switch on and off the street lights should be supervised for efficiency. However they should also be better equipped for self-protection.

Petitioner's submission

ED Goa submits that it will carefully instruct and supervise and equip the linesmen to work on the street lights and timely switch them off.

It is also submitted that Government of Goa has approved the scheme of replacing all street lights with LED's under Demand Side Management. Under these schemes energy efficient street lights/LEDs will be used in street lighting to improve the energy efficiency. ED-Goa would make provision during the tendering process for sensor based automated street light switch, which would automatically switch off once the sunrises (depending upon sunlight).

Commission's comments

The ED, Goa shall take action on the complaint that street lights are burning during day time also. ED, Goa should ensure that the street lights are switched on and switched off as per the schedule strictly.

Objection 8:

Finally we are sad to note your plan of hiking the Electricity Tariff.

The Electricity Department needs to be more pro-active in its working. It must plug the leakages due to illegal wiretapping, street lights left on unnecessarily, put its own Department and Personnel in order and not burden the Consumer for no fault of theirs.

Petitioner's submission

ED Goa submits that it has hiked the tariff only twice in last 15 years. Today it has one of the lowest power tariff in the country and to prevent an abrupt hike in future, we need to raise the proposed minimum tariff. This is must to undertake investments to provide the quality services that the consumers are demanding. The Department strives to keep on doing the same i.e. pro-active planning, reducing losses and theft and providing reliable and quality supply of electricity to its consumers. It would not be out of place to mention that Goa has relatively low AT&C losses.

Commission's comments

The Commission will examine all the factors and take appropriate decision on revision of tariffs in the following section of this Tariff Order.

4.2.5 Issues raised by Ms. Lorna Fernandes, GOA WOMENS FORUM (GWF)**Objection 1:**

GWF demands that the GED formulates a detailed Action Plan to cut its transmission losses and plug its leakages (unauthorized tapping, street lights left on all day etc).

Petitioner's submission

It is submitted that the current assets are aged and overloaded leading to frequent breakdown and increased line losses. ED-Goa submits that it is implementing R-APDRP Part-A which will provide system of recording of the network, facilitate proper energy accounting and auditing of the system. RAPDRP Part B/IPDS/DDUGY scheme will further strengthen the system with new technologies and other capital expenditure schemes to reduce technical line losses. Here the Department would like to humbly reiterate its request for a tariff hike to strengthen its hands to undertake infrastructure improvement investments which are estimated to be way beyond the grants that are likely from the Government of India.

For losses through theft/pilferages, ED-Goa submits that steps are being taken to control theft. MRT (Meter Relay Testing) and Vigilance does routine inspections to check cases related to overdrawal or bypassing of meters. Also the maintenance staffs keep an eye on the network to identify such cases of line tapings etc. ED-Goa would also encourage and appreciate the consumers coming forward and reporting of such cases.

Commission's comments

The submission of ED-Goa is taken note by the Commission. ED-Goa shall take necessary steps to reduce the technical and commercial losses in the system to bring down the distribution losses to an acceptable limit.

Objection 2:

In the interest of transparency and accountability, ED-Goa must also make available on its website their financial statements e.g. Balance Sheet, Audited Accounts etc.

Petitioner's submission

It is submitted the documents such as Financial Statements and Fixed Asset Registers shall be uploaded on the website once the final certificate from Govt. Auditors is issued for the works completed.

Commission's comments

The ED-Goa is directed to put the Financial Statement, Balance Sheet etc. on the website at the earliest on obtaining of final certificate from the Government Auditor.

Objection 3:

We have been receiving many complaints that ED-Goa is charging for wire outside the house, for putting up poles etc., the Electricity Department should be providing to the Consumer and this should be posted in section office in large visible writing so that the staff and the consumer know exactly what ED-Goa is supposed to provide and what consumer needs to pay.

Petitioner's submission

It is submitted that ED-Goa is levying charges as notified by Hon'ble Commission in Tariff Order (for Retail Tariffs and Schedule of General & Miscellaneous Charges) from time to time. The charges for laying new service lines etc. are governed as per JERC Supply Code Regulations 2010 as amended from time to time.

Commission's comments

The submission of ED-Goa is noted by the Commission.

Objection 4:

We demand that ED-Goa arranges for Electricity Bills to be generated monthly or bi-monthly and not later than this.

Petitioner's submission

ED-Goa has already submitted in the petition that it is in the process of streamlining its billing and collection of data. It has already been undertaken above that the Department will seek to achieve a maximum bill generation and distribution duration of two months.

Commission's comments

As already committed the stream lined system of billing etc. shall be introduced by April 30th, 2015 positively to avoid such complaints from the consumers.

Objection 5:

We demand that GED draws up an extensive plan on Consumer Education which will involve:

- i. Information on various extra charges that are charged on a Bill e.g. Fixed Charges, FPPCA and Electricity Duty.
- ii. Promotion of Bijli Bachao Campaign.
- iii. The mandate of BEE wherein consumers can be educated about buying/selecting appliances with a lot electrical consumption.
- iv. Using BIS marked Electrical goods for quality and safety.
- v. Safety of Consumers- Do`s and Don'ts.

Petitioner's submission

The purpose of Fixed charges, FPPCA are well explained by Hon'ble Commission in the MYT Regulations and/Tariff Orders.

The ED-Goa submitted that the Government has already undertaken to implement DELP scheme in 2015-16 wherein 2-3 LED bulbs will be provided to consumers at quite subsidized rates in exchange for Incandescent Lamps. ED-Goa would promote the same in all the Govt. Offices/departments. Also all the govt. departments shall be asked to prevent energy wastage so as to set an example for the consumers.

It is submitted that the standards for electrical goods quality and safety are laid in the JERC Supply Code Regulations for the wiring etc. and/or Bureau of Indian Standard (BIS) standards and Indian Electricity (IE) Rules 1956 in general. However, the Department has no control over the appliances/equipment's in market or consumer premises.

The ED-Goa submits that from time to time (especially during monsoon season) it prints and circulates the pamphlets for Do`s and Don'ts regarding safety of consumers. Danger

boards are put on the transformers, substations, switchgears etc. for consumers to stay away from the equipment's.

The ED-Goa also submits that it will provide full support to any person who is interested in holding such consumer awareness camps to educate consumers about meters, manuals, their working, safety practices and energy efficiency measures.

Commission's comments

The submission of the ED-Goa is taken note by the Commission. The ED-Goa has conducted such programmes at division level to educate the consumers and clarify the doubts in the minds of consumers.

Objection 6:

Electricity departments should follow the safety procedures as already laid down with regards to the safety of its workforce.

Petitioner's submission

The ED Goa submits that it encourages its workforce to follow all the safety procedures laid down while working. Here investments are much required so that system can be automated – this will prevent manual handling of system by linesman and avoid possible accidents.

Commission's comments

The submission of the ED-Goa has been noted by the Commission.

4.2.6 Issues raised by Mr. P Ravi, M/S Leading Hotels

Objection:

Shri P. Ravi, General Manager of Leading Hotel Ltd. has submitted that the Leading Hotel proposes to develop a luxury villa resorts at Tiracole.

- They have applied for 500 KVA supply at 11 KV for construction purpose for 3 years and 4500 KVA at 33 KV for the operating of the development. It is stated that currently Maharashtra State Electricity Distribution Company Limited (MSEDCL) is supplying the 500 KVA supply at Tiracole at 11 KV through Red: Feeder
- MSEDCL bills the supply to Executive Engineer Mapusa division and Goa Electricity Department bills in terms of JERC rate.
- 100 KVA load is currently sufficient to cater 65 families at village Tiracole.
- Requested ED-Goa to finalize the tariff for 500 KVA construction power to Leading Hotels.

Petitioner's submission

The ED-Goa would like to submit that the applicant is applying for connection for construction purposes for a specified period i.e. long term temporary work and as per the tariff proposal submitted to Commission the same falls under Temporary Commercial Category (based on the purpose/use of electricity). However due to the sanctioned load limit of 100 kVA for LT consumers, the applicant shall have to apply for HT Temporary Category for 500kVA Load for construction purpose. The ED-Goa would also like to submit that at present required infrastructure for supplying power from its own network is unavailable and it would have to conduct technical feasibility study for the same. For regular power consumption post-construction, the consumer would fall under HT commercial category.

Commission's comments

The submission of ED-Goa is noted by the Commission. ED-Goa shall extend temporary supply to the Leading Hotel and intimate the consumer to apply for HT Temporary category and collect the necessary charges based on the estimates prepared by ED-Goa for extending supply to them.

4.2.7 Issues raised by Mr. Anil G. Lolinker, Goa Sintered Product Pvt. Ltd.**Objection:**

Wrong practices followed by Goa Electricity Department to charge double rate for period of 12 months, in case maximum demand exceeds by few units in 1 months during the period of use

Petitioner's submission

ED-Goa submits that it adheres to the General Conditions and Tariff Schedule approved by Hon`ble Commission from time to time. However, if any error has been noticed by the consumer in this particular case, the consumer could bring it to the Department`s specific notice and the same would be examined and correction undertaken if so warranted. The relevant clause related to excess billing demand is as under for reference:

16) Billing Demand and Billing of extra Demand:

The billing shall be on the maximum demand recorded during the month or 75% of contracted demand whichever is higher. If in any month, the recorded maximum demand of the consumer exceeds its contracted demand, that portion of the demand in excess of the contracted demand shall be billed at double the normal rate. Similarly, energy consumption corresponding to excess demand shall also be billed at double the normal energy rate.

The definition of the Maximum demand would be in accordance with the provisions of the JERC (Electricity Supply Code) Regulations, 2010.

If such over drawl is more than 20% of the contracted demand then the connection shall be disconnected immediately.

Commission's comments

The submission of ED-Goa is taken note by the Commission.

4.2.8 Issues raised by West Coast Ingots Pvt. Ltd.**Objection:**

Calculate Delay Payment Charges (DPC) on pro-rata basis.

Petitioner's submission

ED-Goa submits that the Delay Payment Charges are charged as per the General Conditions and Tariff Schedule approved by Commission. However, if any error has occurred in this particular case, the consumer can bring it to the specific Department`s notice and the decision can be taken on the same in light of the JERC directions. The relevant extract from Tariff Order is provided as under:

Late payment surcharge of 2% per month or part thereof shall be levied on all delayed payments of bills. Such surcharge shall be rounded off to the nearest multiple of one rupee. Amount less than 50 paise shall be ignored and amount of 50 paise or more shall be rounded off to next rupee.

Commission's comments

The submission of ED-Goa is taken note by the Commission. The same clause will be dealt directly in general conditions and Tariff Schedule in this Tariff Order.

4.2.9 Issues Raised by M/s. Alloy & Steel Manufacturers Association**Issue 1: In Tariff Charges in TOD etc.**

M/s. Alloy & Steel Manufacturers Association has suggested that,

- 1) Electricity is a major input for process and any increase in tariff is going to be adversely affect the cost of production and thereby reducing competition in the market.
- 2) The rebate for power consumption during 2300 to 0700 hours is 10% of energy charges. The rebate during off-peak period be increased to 50%.
- 3) As against the proposed timing of peak load from 6.00 PM to 11 PM; the following timings are suggested:

Normal Period – 7:00 AM to 6:00 PM

Evening Peak – 6:00 PM to 10:00 PM

Off Peak load period – 10:00 PM to 7:00 AM

The steel industry be allowed to overdraw power by 10% over and above the contract demand at the prevailing off peak load period and without demand charges.

- 4) All closed units are required to pay 75% of the contract demand to ED-Goa, which these units are not in a position to pay. Hence, if the unit is closed continuously for three months or more, it should be charged Rs. 1500/- pm as line charges from the date of closure and the unit should be allowed to draw power upto a maximum of 200 KVA to carry out regular maintenance and for lighting.

Petitioner's Submission

On the above issues, the Petitioner has submitted as under:

1. The Hon'ble Commission had suggested for Uniform Tariff Schedule in T.O. FY 2013-14 dated 31.3.2013 (pg 159) which had TOD tariff details. Thereafter the Hon'ble Commission approved TOD tariffs for HT/EHT consumers in T.O. FY 2014-15 dated 15.4.2014 (pg 167); however they were made optional. Considering the present load profile/consumption pattern and the need for better load management, ED-Goa has proposed for change in evening peak period. The TOD tariffs are same as approved by Hon'ble Commission in T.O.
2. Extending 50% rebate during off-peak period is not a feasible option at this moment and any financial loss (during time slots) to ED-Goa will eventually increase burden on all consumers in general. The evening peak period has been suggested based on the EESL study on Demand Side Management in Goa.

It is suggested that TOD time slots and tariffs can be reviewed once the same is implemented and results are studied.

The consumers need to draw power as per contract demand and billing would be as per approved terms and conditions of tariff schedule.

3. It would not be possible to have different types of tariff structure depending upon the functioning of each HT consumers and prevailing industry scenario. It is submitted that ED-Goa needs to make payment for power purchase, capacity

charges & other fixed charges and hence recovery of the same from consumers is required.

On the suggestion for reducing demand charges to a nominal Rs. 15000 p.m, ED-Goa would like to refer to demand charges for last few years

Financial Year	HT Ferro	HT Steel
	(Rs/KVA/Month)	(Rs/KVA/Month)
FY 2011-12	700	450
FY 2012-13	450	400
FY 2013-14	450	400
FY 2014-15	275	
FY 2015-16 (P)	325	

- The objector has suggested for pro-rata demand charges during the shut-down period as per earlier Gazette notification dated 11.4.2002. ED-Goa would like to mention that pro-rata demand charges facility was available as per notification when demand charges were Rs.700/KVA and Rs. 450/KVA for HT Ferro and HT Steel consumer respectively. Further it was mentioned in the Gazette notification that the total shutdown period during the calendar year should be restricted to a maximum of sixty days. The present demand charges are much lower even after a period of 12-13 years and hence there is no need for any such mechanism. As per the tariff orders of Pondicherry, Kerala, Gujarat, Maharashtra States, such provision is not prevailing in these states. Further Hon`ble Commission in its T.O. dated 15-04-2014 for Goa has clearly given their view in this regards at page No. 30.

ED-Goa respectfully submits that in case any consumer has planned for shut down for a period of 3 months or more they may apply for disconnection and later on apply for new connection as and when situation improves.

Commission's comments

The Commission has made note of the objections of the Objector and submissions of the Petitioner. The 'Time of Use' and the 'Energy Charge' for using supply during 'Peak' and 'Off Peak' periods are determined after examining the load profile, power purchase during Peak and Off Peak periods etc.

As regards the pro-rated demand charges, the Commission has explained its views in the Tariff Order dated 15th April, 2014 where is reproduced below:

"As regard to the pro-rated demand charges the Commission finds merit in the Petitioner`s submission that the demand charges are aimed towards meeting the fixed cost of the business. Besides paying fixed charges to the generators, the utility, in order to serve the consumers, has to create and maintain an adequate network for supply to the consumers. Therefore the demand charges cannot be avoided for short intervals where the industries are not functional".

Issue 2: Reintroduction of Load Factor incentives

M/s Alloy & Steel Manufacturers' Association has requested for reintroduction of load factor incentive as in Goa Gazette Notification dated 11.04.2002.

Petitioner's Submission

The objector has provided partial information of Load Factor Incentive from Gazette notification dated 11.04.2002. There were conditions such as actual recorded MD should

not exceed CD. TOD metering to be provided by consumer, no arrears outstanding with ED-Goa, permissible harmonics etc.

Load Factor Incentive is prevailing only in Maharashtra, Madhya Pradesh, West Bengal and Jharkhand. It is submitted that while in principle the suggestion is not objectionable but if Hon`ble Commission decides to introduce Load Factor Incentive for HT/EHT consumers of the Goa, necessary impact in revenue computation be considered (it will reduce revenue from HT consumers for ED-Goa).

Commission's comments

The Commission is of the opinion that there is no need for introduction of "Load Factor Incentive" since the Tariff is so designed that for those who consume more energy the average billing rate reduces correspondingly because the fixed charges are fixed whatever may be the consumption during any month.

Issue 3: Transmission and Distribution Open Access

M/s Alloy & Steel Manufacturers Association of Goa has suggested:

1. To formulate procedures and other infrastructure to enable consumers to buy power on open access. Since the State of Goa does not have a transmission utility and State Load Dispatch Center, the Commission shall notify an independent agency to monitor and manage open access transactions.
2. To determine the open access charges, the ED/Goa should submit details of voltage-wise cost of supply and distribution losses.
3. To appoint an independent agency to monitor and manage installation and maintenance of Special Energy Meters (SEMs) and also for energy settlement and energy accounting within the State of Goa.

Petitioner's Submission

The licensee has formulated the procedure in April, 2013 and the same was intimated to M/s ASMA in last year in reply to an objection.

ED-Goa has submitted a proposal for determination of open access charges in MYT Petition in Chapter-10.

Commission's comments

The Commission has dealt with open access charges in Chapter – 9 in this Order.

Issue 4: Demand Charges

M/s Alloy & Steel Manufacturer`s Association has requested not to increase the demand charges as proposed by the Petitioner and suggested to make demand charges uniform for all types of HT Consumers.

Petitioner's Submission

The demand charges are much lower when compared to previous years. Further ED-Goa in MYT Petition at para 7.2.5 has explained the need for aligning fixed charges recovery against fixed charges payment.

With regards to suggestion for having uniform demand charges across HT consumers, it is suggested that these charges are prevailing since long. ED-Goa in this financial year has already proposed some limited changes through tariff rationalization and these charges are prevailing since quite a long. It is submitted that other than HT Ferro/Steel, rest of the HT Industries consumers & HT Commercial consumers have proposed

uniform demand charges. HT Consumers such as Defence, Agriculture, Domestic are having charges as per their characteristics and as per past trend. The issue next year may be revisited based on experience and actuals.

Commission's comments

The Demand Charge or Fixed Charge component in the Tariff is to recover fixed cost (Capacity Charge) in the generation tariff and investment costs for developing the distribution network such as depreciation, interest, etc., and O&M costs incurred by the licensee.

Issue 5: Corporatisation of ED-Goa

M/s Alloy & Steel Manufacturers` Association has requested the Commission to direct ED-Goa to initiate the process of Corporatization at the earliest.

Petitioner's Submission

The ED-Goa has already initiated the process and would undertake preliminary study before going ahead studying with pros and cons of implementation of Corporatization. The Hon`ble JERC may like to pass suitable directions in this regards.

Commission's comments

The ED-Goa is directed to expedite for early unbundling and corporatization of Electricity Department.

Issue 6: Provisional True Up for FY 2013-14

M/s Alloy & Steel Manufacturers Association has stated that as per JERC MYT Regulations, 2014, the true up for a Financial Year can be done only after submission of audited accounts. The audited accounts for FY 2013-14 is not available and hence true up submission should not be considered.

Petitioner's Submission

ED-Goa has provided the data of FY 2013-14 for considering as base year`s figure for future projections of FY 14-15 and MYT control period. It is reiterated that ED-Goa would claim revenue gap in the tariffs when audited accounts are available.

Commission's comments

True Up for any Financial Year can be undertaken when for audited annual accounts of the relevant year are made available along with the petition filed before the Commission. ED-Goa should expedite for early completion of audit of their annual accounts.

Issue 7: Annual Performance Review for FY 2014-15

M/s Alloy & Steel Manufacturers Association has submitted that:

- 1) The ED-Goa be directed to put sustained efforts to meet the distribution loss targets and submit a roadmap for their reduction. Also the ED, Goa needs to separate the loss into technical and commercial loss.
- 2) ED-Goa to explore means to reduce the unplanned overdrawal to reduce power purchase cost.
- 3) ED-Goa submission the rates are under negotiation, in regard to supply to Reliance IPP, is not as per present regulatory framework and ED-Goa needs to levy tariff applicable to HT industry or if it is for a short period, the tariff applied shall be treated as temporary tariff.

- 4) ED-Goa can explore the possibility of purchase REC from power exchange to meet RPO obligations.
- 5) The Commission to disallow high increase in employee and R&M expenses as they are without sufficient and proper reasons.
- 6) CGRF expenses should be claimed as part of A&G expenses and claiming them apparently is not as per JERC MYT Regulation, 2014.
- 7) Revenue Gap: Unless actual audited accounts are available for FY 2014-15 and after disallowance of the various cost escalations claimed as a percentage in the annual performance review, the revenue gap will decrease considerably.

Petitioner's Submission

- 1) The ED-Goa in MYT Petition at petition at Para 5.6 has mentioned that it is sorting out billing issues to address commercial losses and also implementing R-APDRP and other capital expenditure schemes to reduce technical losses.

However the results would be visible only after the schemes are implemented.

- 2) ED-Goa had overdrawn the power in H1 of FY 2014-15 under following circumstances:

- Non availability of power from Reliance IPP from 18th April 2014 to 13th August 2014 and in addition Department had to supply power to IPP to supply to their consumers.
- Outages by Central Generating Stations-

Information can be captured from WRLDC website from the drawal schedule which shows that Goa received less power from some of the Central Generating Stations (Such as Korba Power Plant (KSTPS) during the period April to August (especially in mid-August) leading to unplanned overdrawal from the grid at higher cost.

However ED-Goa is taking all possible measures to procure power in reasonable and planned manner.

- 3) ED-Goa has already clarified in the petition that it is pursuing the matter with Reliance IPP. However the matter is referred to panel constituted by the Government of Goa to resolve the Billing dispute.
- 4) ED-Goa has so far purchased 85MU RECs at the rate of Rs. 1.5/kWh for non-solar RPO. It is matter of representation of APR from Petition.
- 5) The revised estimates for FY 2014-15 are based on tentative actuals of first six months of FY 2014-15. The head wise details for each of the element of O&M expenses are provided in relevant to tariff formats.
- 6) Since CGRF expenses were approved separately in T.O. FY 2014-15 (pg 159), ED-Goa has for the comparison purpose shown it separately. In MYT period the same are merged and considered as part of A&G expenses.

The Object or raised for not allowing the revenue gap under review for FY 2014-15 as it would eventually lead to further increase in revenue gap in the true-up process. The revenue gap at the time of true-up will also attract carrying cost which ultimately the

consumers have to borne. ED-Goa submits that Hon'ble Commission should consider the revenue gap arrived under review process while determining tariffs for FY 2015-16 as per its practice in earlier tariff orders.

Commission's comments

The suggestions of objector and submission of the Petitioner are noticed. In 'Review for FY 2014-15', the commission has analysed and considered each component of expenses while arriving at the Aggregate Revenue Requirement for FY 2014-15.

Issue 8: MYT for FY 2015-16 to FY 2017-18

M/s Alloy & Steel Manufacturers Association has stated that:

- 1) The Commission shall disallow any increase in distribution loss for the control period and direct to ED, Goa to submit a plan to reduce the distribution loss to 10% at the end of the contract period.
- 2) ED, Goa needs to explore possibility of purchased power from NTPC or NPCIL and also additional power from Cogen.
- 3) The Commission to review the capital expenditure and capitalization submitted by ED, Goa for the control period.
- 4) The Commission is requested to review thoroughly the huge increase in expenses with reference to energy sales.
- 5) The capital expenditure also needs to be analysed.
- 6) Fixed charges payment VS Fixed charges recovery: The Commission is requested to take the concerns of consumers before accepting the proposals of ED, Goa.
- 7) The Percentage increase sought by ED, Goa in fixed and energy charges are very high. The Commission to disallow such high increase in tariff.

Petitioner's Submission

- 1) ED-Goa is very serious on the matter and taking all necessary steps including implementation of R-APDRP and IPDS etc. to address the issues related to improvements and reduction of technical losses. ED-Goa is also addressing metering and billing related issues to reduce commercial losses. Hon'ble Commission may approve distribution losses considering realistic scenario of FY 2013-14 and FY 2014-15 and also fact that results of implementation of capital expenditure schemes will be visible at the end of control period. Hence distribution losses should be approved as per proposal of ED-Goa in MYT petition.
- 2) Short term contracted rate (tied-up rate in Nov 2014) for ED-Goa for power purchase from Dec 2014 to May 2014 is around 3.60-Rs.3.75 per unit. ED-Goa has considered escalation in control period. ED-Goa would like to mention that objector has failed to refer to Business Plan petition where details of Power Procurement and even SWOT analysis are provided. In para 4.3.2 of the Business Plan petition, ED-Goa has highlighted the concern of its likely power procurement arrangement due to coal block cancellation by Supreme Court. However as mentioned earlier, ED-Goa is taking all measures, in line with the Ministry of Power guidelines to procure power in a reasonable and planned manner.
- 3) As per 18th EPS report, CEA has projected 5473MUs Energy Consumption and 1105MW Peak Load for Goa by FY 2020-21 as compared to the present 2977MUs

and 540MW Peak Load (for FY 2013-14). Hence, a huge investment in infrastructure is required to cater this upcoming load and to prevent the lines, conductors and cables from being overloaded.

- 4) ED-Goa submitted detailed capital expenditure plan along with explanation in Business Plan petition for the control period and requested Hon`ble Commission to approve the same.
- 5) Comparison of costs with sales increase alone would be incorrect. The major component of the ARR is Power Purchase and Transmission charges, the tariffs of which are regulated by CERC. The O&M expenses are linked to inflation as well as certain components such as no of employees, no of consumers, value of gross fixed assets etc. It is submitted that the Fixed Asset Registers have been submitted to the Hon`ble Commission and the same shall be uploaded on the website. The other costs such as depreciation, interest on normative loan, and return on equity are required to be allowed as per provisions of MYT Regulations 2014.
- 6) ED-Goa in MYT petition at para 7.2.5 has explained the need for aligning fixed charges recovery against fixed charges payment.
- 7) ED-Goa has proposed the tariffs for consumers categories considering the ARR projections and revenue gap. ED-Goa has also explained the need for tariff increase and the philosophy in chapter 7 of MYT petition.

Commission's comments

As explained in Chapter-1 of this order, the Commission has taken a decision to determine the Aggregate Revenue Requirement for FY 2015-16 only instead of for FY 2015-16 to FY 2017-18.

The Commission has determined the various components of the ARR in line with JERC Tariff Regulations, 2009. Detailed analysis is given the Chapter-6 of this order.

5. Review of ARR for FY 2014-15

5.1 Background

The ED-Goa filed its petition for Review of FY 2014-15 and Multi Year Tariff (MYT) Petition for the First Control Period of FY 2015-16 to FY 2017-18 on January 14th, 2015 (received by the Commission on 20.01.2015). The petition was admitted on February 03rd, 2015 subject to the removal of infirmities to the extent possible. Subsequent to filing, a technical validation session was held on February 19th, 2015. The Commission scheduled Public hearings of Petitions No. 160/2015 and 161/2015 on March 11th, 2015 and March 26th, 2015.

The Commission in the absence of the audited accounts has considered the figures for FY 2013-14 as approved vide its order dated April 15th, 2014 and actuals of the first half of FY 2014-15 wherever available for determination of the ARR for FY 2014-15 as they depict nearly the true performance of the utility.

The Commission has taken into consideration the following for determination of ARR for FY2014-15:

- I. Performance in FY 2013-14 as approved in the order dated April 15th, 2014.
- II. Sales, power purchase and revenue figures based on actuals in the first half of FY 2014-15 and FY 2013-14 (H1 and H2).

- III. Estimates submitted by the Petitioner for H2 of FY 2014-15 in the petition.
- IV. Depreciation, Interest and Finance Charges, Interest on Working Capital, Interest on Security Deposit, and Return on Net Fixed Assets have been computed as per the JERC Tariff Regulations 2009.

5.2 Analysis of Review for FY 2014-15

The review of aggregate revenue requirement requires assessment of quantum of energy sales, energy loss as well as various cost elements like power purchase cost, O&M expenses, interest cost, depreciation etc. As regards the various components of ARR, the Commission's Analysis thereon and decision in respect of items given below is discussed in the following Para's:

- Assessment of Energy Requirement
 - I. Sales Projections
 - II. Loss Trajectory
 - III. Energy Balance
 - IV. Power Purchase Sources
- Assessment of the Aggregate Revenue Requirement
 - V. Power Purchase Costs & Transmission Charges;
 - VI. Operation and Maintenance Expenses;
 - Employee Expenses
 - Administration & General expenses
 - Repairs & Maintenance Expenses
 - VII. Capital Expenditure and Asset Capitalization
 - VIII. Gross Fixed Assets;
 - IX. Depreciation;
 - X. Interest on Long Term Loans;
 - XI. Interest on Working Capital & Security Deposits;
 - XII. Return on Capital Base/Net Fixed Assets;
 - XIII. Provision for Bad and Doubtful Debts;
 - XIV. Other expenses.

5.3 Consumers, Connected Load and Energy Sales

5.3.1 Number of Consumers

Petitioner's Submission

The Petitioner has submitted that the consumer base of Goa comprises of HT Industry, LT Industry, Commercial and Domestic consumers with the maximum number of consumers attributable to the domestic category. ED – Goa has been experiencing a constant & nominal growth rate in number of consumers over the last few years and foresees a similar kind of trend in the near future. Further, ED – Goa envisages very little increase in number of consumers which is also in line with that approved by the Commission in its Tariff Order. The table below shows category wise number of consumers for the 1st half (provisional) and at the end of the year FY 2014-15 (Revised Estimates).

Table 5.1 Number of Consumers projected for FY 2014-15(RE) by the Petitioner
(Nos.)

Sl. No.	Category of Consumer	FY 2014-15 (Approved in the T.O. dated 15th April, 2014)	H1 of FY 2014-15 (Provisional)	FY 2014-15 (RE)
1	2	3	4	5
A	Low Tension Supply	588,218	591,534	602,750
1(a)	Tariff LTD/Domestic and Non-Commercial	446,515	469,503	478,893
	First 60 Units		100,512	102,523
	61 to 250 Units		282,784	288,440
	251 to 500 Units		67,964	69,323
	Above 500 Units		18,243	18,607
1(b)	Tariff LTD/Low income group	14,321	11,547	11,547
1(c)	Tariff LTD/Domestic Mixed	51	1,405	1,405
	First 400 Units		1,150	1,150
	Above 400 Units		255	255
2	Tariff-LTC/Commercial	96,414	87,335	89,081
	First 100 Units		42,463	43,312
	From 101 to 1000 Units		39,082	39,863
	All Consumption above 1000 Units		5,790	5,906
3(a)	Tariff-LTP/Motive Power	9,622	6,912	6,981
	Connected Load upto 50 HP		363	366
	Connected Load above 50 HP		6,549	6,615
3(b)	Tariff-LTP/ Ice Manufacturing	45	63	66
	Connected Load up to 100 HP		63	66
3(c)	Tariff-LTP/Mixed (Hotel Industries)	126	141	148
4	Tariff-LTAG/Agriculture	11,105	11,145	11,145
5	Tariff-LTAG/Public Lighting	9,466	2,740	2,740
6	Tariff-LT PWW/Public Water Works	553	744	744
B	High Tension Supply	839	811	817
7	Tariff HT-Mixed	206	168	168
8(a)	Tariff HTI/Industrial	493	392	396
8(b)	Tariff HTI/Hotel Industries	-	109	110
8(c)	Tariff HTI/Ice Manufacturing	2	2	2
9	HT Industrial (Ferro Metallurgical /Steel Melting/Power Intensive/Steel Rolling)	26	37	37
	First 300 Units/kVA		20	20
	Next 200 Units/kVA		14	14
	Above 500 Units/kVA		3	3
10	Tariff-HTAG/Agriculture	42	41	41
11	EHTI/Industrial	4	5	5
12	HT PW/Public Water Supply and sewage	31	34	35
13	HT MES/Defense Establishments	13	12	12
14	HT Industrial (Steel Rolling)	14		
	First 200 Units/kVA			
	Next 100 Units/kVA			
	Above 300 Units/kVA			
15	Tariff HT Industries (IT High Tech)	8	11	12

Sl. No.	Category of Consumer	FY 2014-15 (Approved in the T.O. dated 15th April, 2014)	H1 of FY 2014-15 (Provisional)	FY 2014-15 (RE)
C	Temporary Supply	4,173	5,033	5,033
16	Tariff –LT/Temporary	4,173	4,929	4,929
17	Tariff-HT/Temporary	-	-	-
18	Hoarding/Sign Board	-	104	104
	Total Number of Consumers	593,230	597,378	608,601

Commission's Analysis

The Commission has considered the category wise number of consumers for FY 2014-15 in Review as projected by the Petitioner as given in the table below.

Table 5.2 Number of Consumers approved by the Commission in Review of FY 2014-15
(Nos.)

Sl. No.	Category of Consumer	FY 2014-15 (Approved in the T.O. dated 15th April, 2014)	FY 2014-15 approved in the Review
1	2	3	5
A	Low Tension Supply	588,218	602,750
1(a)	Tariff LTD/Domestic and Non-Commercial	446,515	478,893
	First 60 Units		102,523
	61 to 250 Units		288,440
	251 to 500 Units		69,323
	Above 500 Units		18,607
1(b)	Tariff LTD/Low income group	14,321	11,547
1(c)	Tariff LTD/Domestic Mixed	51	1,405
	First 400 Units		1,150
	Above 400 Units		255
2	Tariff-LTC/Commercial	96,414	89,081
	First 100 Units		43,312
	From 101 to 1000 Units		39,863
	All Consumption above 1000 Units		5,906
3(a)	Tariff-LTP/Motive Power	9,622	6,981
	Connected Load upto 50 HP		366
	Connected Load above 50 HP		6,615
3(b)	Tariff-LTP/ Ice Manufacturing	45	66
	Connected Load up to 100 HP		66
3(c)	Tariff-LTP/Mixed (Hotel Industries)	126	148
4	Tariff-LTAG/Agriculture	11,105	11,145
5	Tariff-LTAG/Public Lighting	9,466	2,740
6	Tariff-LT PWW/Public Water Works	553	744
B	High Tension Supply	839	817
7	Tariff HT-Mixed	206	168

Sl. No.	Category of Consumer	FY 2014-15 (Approved in the T.O. dated 15th April, 2014)	FY 2014-15 approved in the Review
1	2	3	5
8(a)	Tariff HTI/Industrial	493	396
8(b)	Tariff HTI/Hotel Industries	-	110
8(c)	Tariff HTI/Ice Manufacturing	2	2
9	HT Industrial (Ferro Metallurgical /Steel Melting/Power Intensive/Steel Rolling	26	37
	First 300 Units/kVA		20
	Next 200 Units/kVA		14
	Above 500 Units/kVA		3
10	Tariff-HTAG/Agriculture	42	41
11	EHTI/Industrial	4	5
12	HT PW/Public Water Supply and sewage	31	35
13	HT MES/Defense Establishments	13	12
14	HT Industrial (Steel Rolling)	14	
	First 200 Units/kVA		
	Next 100 Units/kVA		
	Above 300 Units/kVA		
15	Tariff HT Industries (IT High Tech)	8	12
C	Temporary Supply	4,173	5,033
16	Tariff -LT/Temporary	4,173	4,929
17	Tariff-HT/Temporary	-	-
18	Hoarding/Sign Board	-	104
	Total Number of Consumers	593,230	608,601

5.3.2 Connected Load

Petitioner's Submission

The Petitioner has submitted that the category wise connected load for the 1st half and revised estimates for FY 2014-15 are provided in the table below. It has been observed that connected load for ED-Goa has not shown significant variance over the past five years. Therefore ED-Goa has considered a nominal growth of **0.5%** for LT-Domestic and LT-Commercial Consumers over H1 of FY 2014-15 to project connected load of H2 of FY 2014-15. ED-Goa has not considered any growth rate on connected load for rest of the categories and has considered connected load of H2 same as that of H1 of FY 2014-15.

Table 5.3 Connected Load Projected by the Petitioner for FY 2014-15(RE)

(KW)

Sl. No.	Category of Consumer	FY 2014-15 (Approved)	H1 of FY 2014-15 (Provisional)	FY 2014-15 (Rev. Est.)
1	2	3	4	5
A	Low Tension Supply(in Kw/HP)			
1(a)	Tariff LTD/Domestic and Non-Commercial	1,131,655	1,626,303	1,634,435
	First 60 Units	242,267	348,163	349,904
	61 to 250 Units	681,602	979,531	984,429
	251 to 500 Units	163,816	235,420	236,597
	Above 500 Units	43,971	63,190	63,506
1(b)	Tariff LTD/Low income group	1,206	2,046	2,046

Sl. No.	Category of Consumer	FY 2014-15 (Approved)	H1 of FY 2014-15 (Provisional)	FY 2014-15 (Rev. Est.)
1(c)	Tariff LTD/Domestic Mixed	2,198	3,191	3,191
	First 400 Units	1,798	2,611	2,611
	Above 400 Units	400	580	580
2	Tariff-LTC/Commercial	334,998	275,886	277,265
	First 100 Units	162,879	134,138	134,809
	From 101 to 1000 Units	149,910	123,458	124,075
	All Consumption above 1000 Units	22,209	18,290	18,382
3(a)	Tariff-LTP/Motive Power	1,011,331	165,019	165,019
	Connected Load upto 50 HP	53,064	8,658	8,658
	Connected Load above 50 HP	958,267	156,360	156,360
3(b)	Tariff-LTP/ Ice Manufacturing	1,882	3,072	3,072
	Connected Load upto 100 HP	1,882	3,072	3,072
3(c)	Tariff-LTP/Mixed (Hotel Industries)	3,315	4,569	4,569
4	Tariff-LTAG/Agriculture	64,226	61,326	61,326
5	Tariff-LTAG/Public Lighting	9,047	9,598	9,598
6	Tariff-LT PWW/Public Water Works	21,548	5,600	5,600
B	High Tension Supply	657,938	573,529	573,529
7	Tariff HT-Mixed	67,649	74,767	74,767
8(a)	Tariff HTI/Industrial	234,192	240,374	240,374
8(b)	Tariff HTI/Hotel Industries	122,763	41,559	41,559
8(c)	Tariff HTI/Ice Manufacturing	364	364	364
9	HT Industrial (Ferro Metallurgical /Steel Melting/Power Intensive/Steel Rolling)	93,223	111,840	111,840
	First 300 Units/kVA	50,341	60,389	60,389
	Next 200 Units/kVA	35,425	42,328	42,328
	Above 500 Units/kVA	7,458	9,123	9,123
10	Tariff-HTAG/Agriculture	8,202	8,258	8,258
11	EHTI/Industrial	76,519	51,833	51,833
12	HT PW/Public Water Supply and sewage	26,852	30,796	30,796
13	HT MES/Defense Establishments	6,812	7,080	7,080
14	HT Industrial (Steel Rolling)	16,204		
	First 200 Units/kVA	11,505		
	Next 100 Units/kVA	3,727		
	Above 300 Units/kVA	972		
15	Tariff HT Industries (IT High Tech)	5,159	6,658	6,658
C	Temporary Supply	16,464	8,025	8,025
16	Tariff -LT/Temporary	16,464	7,502	7,502
17	Tariff-HT/Temporary	-	-	-
18	Hoarding/Sign Board	-	523	523

Commission's Analysis

The Commission has considered the connected load for FY 2014-15 in Review as projected by the Petitioner as given in the table below.

Table 5.4 Connected Load approved by the Commision in Review for FY 2014-15

(KW)

Sl. No.	Category of Consumer	Considered for FY 2014-15 in the T.O dated 15th April, 2014	Approved for FY 2014-15 in review
1	2	3	5
A	Low Tension Supply(in Kw/HP)		
1(a)	Tariff LTD/Domestic and Non-Commercial	1,131,655	1,634,435
	First 60 Units	242,267	349,904
	61 to 250 Units	681,602	984,429
	251 to 500 Units	163,816	236,597
	Above 500 Units	43,971	63,506
1(b)	Tariff LTD/Low income group	1,206	2,046
1(c)	Tariff LTD/Domestic Mixed	2,198	3,191
	First 400 Units	1,798	2,611
	Above 400 Units	400	580
2	Tariff-LTC/Commercial	334,998	277,265
	First 100 Units	162,879	134,809
	From 101 to 1000 Units	149,910	124,075
	All Consumption above 1000 Units	22,209	18,382
3(a)	Tariff-LTP/Motive Power	1,011,331	165,019
	Connected Load upto 50 HP	53,064	8,658
	Connected Load above 50 HP	958,267	156,360
3(b)	Tariff-LTP/ Ice Manufacturing	1,882	3,072
	Connected Load upto 100 HP	1,882	3,072
3(c)	Tariff-LTP/Mixed (Hotel Industries)	3,315	4,569
4	Tariff-LTAG/Agriculture	64,226	61,326
5	Tariff-LTAG/Public Lighting	9,047	9,598
6	Tariff-LT PWW/Public Water Works	21,548	5,600
B	High Tension Supply	657,938	573,529
7	Tariff HT-Mixed	67,649	74,767
8(a)	Tariff HTI/Industrial	234,192	240,374
8(b)	Tariff HTI/Hotel Industries	122,763	41,559
8(c)	Tariff HTI/Ice Manufacturing	364	364
9	HT Industrial (Ferro Metallurgical/Steel Melting/Power Intensive/Steel Rolling)	93,223	111,840
	First 300 Units/kVA	50,341	60,389
	Next 200 Units/kVA	35,425	42,328
	Above 500 Units/kVA	7,458	9,123
10	Tariff-HTAG/Agriculture	8,202	8,258
11	EHTI/Industrial	76,519	51,833
12	HT PW/Public Water Supply and sewage	26,852	90,796
13	HT MES/Defence Establishments	6,812	7,080
14	HT Industrial (Steel Rolling)	16,204	
	First 200 Units/kVA	11,505	
	Next 100 Units/kVA	3,727	
	Above 300 Units/kVA	972	
15	Tariff HT Industries (IT High Tech)	5,159	6,658
C	Temporary Supply	16,464	8,025
16	Tariff -LT/Temporary	16,464	7,502
17	Tariff-Ht/Temporary	-	-
18	Hoarding/Sign Board	-	523

5.3.3 Energy sales

Petitioner's Submission

The ED-Goa has projected the sales by considering the actual consumption for the 1st half of FY 2014-15, i.e. April 2014 to Sept 2014. The sales forecast for the remaining period is based on the trends observed in the sales pattern over the previous years during the corresponding 2nd half of the respective years.

The ED-Goa has considered higher sales during the 2nd half of FY 2014-15 as compared to the first half. This is on account of the peak tourist season which commences from the month of September onwards and continues till the month of January/February. Hence, there is a substantial amount of consumption of power during this period.

It is submitted that there is a backlog in billing for LT consumers during the first half of FY 2014-15 which is expected to be covered up during the second half of FY 2014-15 and therefore sales of H2 (in terms of billing only) is estimated on higher side than H1 of FY 2014-15

It is submitted that Reliance IPP was providing electricity supply directly to approx 55 Industrial consumers on its own network. The said PPA with reliance IPP has expired on 13th August 2014 and all the industrial consumers are now being supplied power by the ED-Goa. Therefore the ED-Goa expects an increase in sales of H2 as compared to H1 of FY 2014-15.

The following table shows the overall sales projected by the ED-Goa for the year of FY 2014-15.

Table 5.5 Projected Energy Sales for FY 2014-15

(MU)

Sl. No.	Category of Consumer	FY 2014-15 (Approved as per To dated 15.04.2014)	H1 FY 2014-15 (Provisional)	H2 FY 2014-15 (Estimate)	FY 2014-15 (RE)
1	2	3	4		5
A	Low Tension Supply	1,293	578	652	1,230
1(a)	Tariff LTD/Domestic and Non-Commercial	841	339	383	722
	First 60 Units	177	73	82	155
	61 to 250 Units	504	204	231	435
	251 to 500 Units	126	49	55	105
	Above 500 Units	34	13	15	28
1(b)	Tariff LTD/Low income group	3	3	4	7
1(c)	Tariff LTD/Domestic Mixed	5	3	4	7
	First 400 Units	4	3	3	6
	Above 400 Units	1	1	1	1
2	Tariff-LTC/Commercial	291	124	140	264
	First 100 Units	142	60	68	128
	From 101 to 1000 Units	130	56	63	118
	All Consumption above 1000 Units	19	8	9	18
3(a)	Tariff-LTP/Motive Power	94	70	79	149
	Connected Load upto 50 HP	5	4	4	8
	Connected Load above 50 HP	89	66	75	141
3(b)	Tariff-LTP/ Ice Manufacturing	8	3	3	7
	Connected Load upto 100 HP	-	3	3	7
3(c)	Tariff-LTP/Mixed (Hotel Industries)	5	1	1	3
4	Tariff-LTAG/Agriculture	16	12	13	25
5	Tariff-LTAG/Public Lighting	24	18	21	39
6	Tariff-LT PWW/Public Water Works	7	3	3	6
B	High Tension Supply	1,785	879	921	1,800
7	Tariff HT-Mixed	112	65	66	130

Sl. No.	Category of Consumer	FY 2014-15 (Approved as per To dated 15.04.2014)	H1 FY 2014-15 (Provisional)	H2 FY 2014-15 (Estimate)	FY 2014-15 (RE)
8(a)	Tariff HTI/Industrial	655	284	320	604
8(b)	Tariff HTI/Hotel Industries	-	66	67	133
8(c)	Tariff HTI/Ice Manufacturing	-	1	1	1
9	HT Industrial (Ferro Metallurgical/ Steel Melting/Power Intensive/Steel Rolling	555	281	284	566
	First 300 Units/kVA	300	152	154	306
	Next 200 Units/kVA	211	87	88	176
	Above 500 Units/kVA	44	13	13	27
10	Tariff-HTAG/Agriculture	5	2	2	5
11	EHTI/Industrial	192	87	88	175
12	HT PW/Public Water Supply and sewage	147	68	69	137
13	HT MES/Defence Establishments	25	13	14	27
14	HT Industrial (Steel Rolling)	61	-	-	-
	First 200 Units/kVA	44	-	-	-
	Next 100 Units/kVA	14	-	-	-
	Above 300 Units/kVA	4	-	-	-
15	Tariff HT Industries (IT High Tech)	21	10	11	21
C	Temporary Supply		19	19	39
16	Tariff -LT/Temporary	11	19	19	38
17	Tariff-HT/Temporary	0	-	-	-
18	Hoarding/Sign Board	0	0	0	0
	Total Energy Sales	3,078	1,476	1,592	3,068

Note: HTI/Industrial is expected to increase in H2 due to increase in consumers from Reliance IPP

Commission's Analysis

The Commission in its Tariff Order for FY 2014-15 had approved the sales of 3078 MU's for FY 2014-15 based on the past trends. In terms of the JERC Tariff Regulations, the review of the sales has been undertaken. The Commission while approving the sales has looked at the increase in the period October to March of FY 2013-14 as compared to April to September 2013. The increase is applied on the actual sales submitted by the Petitioner for the period April to September 2014 to arrive at the sales for the second half of FY 2014-15. The Commission also considered the expected additional sales during H2 of FY 2014-15 due to shifting of Industrial Consumers from Reliance IPP.

As also indicated in the previous orders the Commission has considered the normative consumption of consumers under LTD-LIG category in accordance with the Tariff Schedule. Consumers under the LTD/LIG-Low Income group category are allowed a connected load of two numbers of 40 watts bulbs=2x40=80W only as per approved Tariff Schedule. Considering this as the basis, consumption of each consumer under the LIG category works out to be 175.2 (2x40x6x365/1000) kWh per consumer per year taking average usage of 6 hours per day. The number of consumers are 11547 as shown in Table No. 5.2 Accordingly, the Commission has considered the sales for FY 2014-15 for the LTD/LIG category at 2.02 MU per year.

In view of the fact that the PPA with Reliance IPP for supplying power to 55 industrial consumers has expired on 13th August, 2014 and all the industrial consumers are now being supplied power by ED-Goa, the sales for industrial consumers for H2 of FY 2014-15 are approved, as projected by the Petitioner.

Based on the above, the energy sales for FY 2014-15 approved for review purpose are as given in the table below:

Table 5.6 Energy Sales Approved by the Commission for FY 2014-15

(MU)

Sl. No.	Category of Consumer	FY 2014-15 (Approved as per TO dated 15.04.2014)	H1 of FY 2014-15 (Prov.)	Growth Rate (%)	H2 of FY 2014-15 (Est)	FY 2014-15 (RE)
1	2	3				
A	Low Tension Supply	1,293	574		692	1266
1(a)	Tariff LTD/Domestic and Non-Commercial	841	339	115%	389	728
1(b)	Tariff LTD/Low income group	3	1	100%	1	2
1(c)	Tariff LTD/Domestic Mixed	5	3	133%	4	7
2	Tariff-LTC/Commercial	291	124	116%	144	268
3(a)	Tariff-LTP/Motive Power	94	70	155%	109	179
3(b)	Tariff-LTP/ Ice Manufacturing	8	3	150%	5	8
3(c)	Tariff-LTP/Mixed (Hotel Industries)	5	1	350%	4	5
4	Tariff-LTAG/Agriculture	16	12	233%	13	25
5	Tariff-LTAG/Public Lighting	24	18	123%	22	40
6	Tariff-LT PWW/Public Water Works	7	3	75%	3	6
B	High Tension Supply	1,785	877		933	1810
7	Tariff HT-Mixed	112	65	105%	69	134
8(a)	Tariff HTI/Industrial	655	284	114%	323	607
8(b)	Tariff HTI/Hotel Industries	-	66	107%	71	137
8(c)	Tariff HTI/Ice Manufacturing	-	1		1	2
9	HT Industrial (Ferro Metallurgical/Steel Melting/Power Intensive/Steel Rolling)	555	281	100%	284	565
10	Tariff-HTAG/Agriculture	5	2	200%	4	6
11	EHTI/Industrial	192	87	101%	88	175
12	HT PW/Public Water Supply and sewage	147	68	97%	69	137
13	HT MES/Defence Establishments	25	13	100%	14	27
14	HT Industrial (Steel Rolling)	61	0	112%	0	0
15	Tariff HT Industries (IT High Tech)	21	10	113%	11	21
16	Tariff HT Industries (Ice)	1	0		0	0
C	Temporary Supply		19		19	38
16	Tariff -LT/Temporary	11	19	100%	19	38
17	Tariff-HT/Temporary	0	0		0	0
18	Hoarding/Sign Board	0	0		0	0.0
	Total Energy Sales	3,078	1470		1644	3114

5.4 Intra-state Transmission & Distribution Loss

Petitioner's Submission

The Distribution Loss for the 1st half of the year FY 2014-15 (i.e. April 2014 to Sept-2014) based on the actual data available comes to 18.66%. The distribution loss for the year FY 2014-15 on overall basis is estimated to be around 14%. ED – Goa has been trying to minimize the Distribution Loss and shall continue with the efforts in reducing the Distribution Loss further.

Commission's Analysis

The Commission in its Tariff Order for April 15, 2014 had approved a loss level of 11.50% for FY 2014-15. However, the Petitioner in its present petition has shown an achievement of T&D losses for FY 2013-14 to be around 13.90% and has requested the

Commission to revise the loss levels for FY 2014-15. The Petitioner has not provided substantial reasons for the proposed non-achievement of the targeted levels. The Petitioner has envisaged high levels of capital investment, which includes system improvement schemes. The proposed capital expenditure would be unjustified if there is no corroborated improvement in the T&D losses.

The Commission therefore does not find any merit in the submission of the Petitioner for revision of the T&D loss for FY 2014-15 and retains the loss level approved in the Tariff Order dated April 15, 2014. **Accordingly, the T&D loss level for the review of FY 2014-15 remains 11.50%.**

5.5 *Inter-State Transmission Loss*

Petitioner's Submission

The energy input at Goa Periphery is considered from both the regions – WR & SR. Likewise, the total power purchased from both the regions has been considered and accordingly, the inter-state transmission loss is worked out. The Petitioner has worked out losses for western region and southern region at 4.23% and 11.82% respectively for H1 of FY 2014-15.

In case of H2 of FY 2014-15, the total PGCIL Losses are considered for both the regions, i.e. WR & SR. The PGCIL loss for the SR for FY 2014-15 are considered at 12.00%. (Andhra Intra State Transmission Loss + SR Interstate Loss + Karnataka wheeling loss). On the other hand PGCIL losses for the WR are considered as the average of 52 week losses at 3.80 % (source: WRPC Website).

Commission's Analysis

The inter-state transmission losses are considered as uncontrollable. The Petitioner in its submission has considered the actual recorded Input at Goa Periphery to arrive at the inter-state losses.

The Commission in order to determine the inter-state transmission losses has relied upon the Energy Accounting data available at SRPC and WRPC for the first half of FY 2014-15. The inter- state transmission losses calculated for H1 of FY 2014-15 are 4.23% and 11.82% for power procured through generating stations in western region (other than stations within Goa) and southern region respectively.

The Commission has considered the losses for H2 equivalent to the actual percentage of 11.82% in H1 of FY 2014-15 for southern and 3.71 % for WR according to average 52 week losses up to August 10, 2014. (WRPC website)

5.6 *Energy Balance*

Petitioner's Submission

ED-Goa while computing Energy Balance for entire FY 2014-15 has considered actual of UI overdrawal/underdrawal, purchase from traders, sale to exchange etc. Thus, on the basis of the actual of H1 and projections of H2 of FY 2014-15, the Energy Balance for the year FY 2014-15 is computed by ED-Goa as shown in the Table below:

Table 5.7 Projected Energy Balance for the year FY 2014-15*

Sl. No.	Item	Apr-Mar (Rev. Est) - WR FY 2014-15	Apr-Mar (Rev.Est) - SR FY 2014-15	Apr-Mar (Rev.Est) - WR+SR FY 2014-15
1	2	3	4	5
1	Retail Sales to Consumers			3,068
	<u>Add: Distribution Losses - %</u>			14.00.%
	Distribution Losses – MUs			499
2	Net Energy Requirement at Goa Periphery			3,567

Sl. No.	Item	Apr-Mar (Rev. Est) - WR FY 2014-15	Apr-Mar (Rev.Est) - SR FY 2014-15	Apr-Mar (Rev.Est) - WR+SR FY 2014-15
3	Total Power Scheduled at Goa Periphery			
	Scheduled Power from NTPC, RGPPL, NPCIL & RSTPS	2,633	691	3,324
	Add: Actuals of Over/Under drawal, Traders and Sale to exchange - H1			100
	Add: Power from Open Market during peak/(Surplus Power diversion to exchange during off-peak)			199
	Total	2,633	691	3,622
4	Less: PGCIL Losses - %	4.34%	11.95%	5.43%
	PGCIL Losses – MUs	114	83	197
5	Total Power Purchased within Goa State			
	Add: Co-generation	163	0	163
	Add: Independent Power Producers (IPP)	(21)	0	(21)
	Total	142	0	142
6	Energy Input at Periphery after PGCIL Losses & State Power Purchase	2,660	6,08	3,567

* From Table 4.8 of the Petition

Commission's Analysis

The Commission in the foregoing paragraphs has approved the actual sales, internal and external losses based on which the energy balance is considered. The Commission in its previous order had approved the requirement of 3478.06 MU to meet the energy requirement within the state to the retail consumers, assuming T&D losses of 11.50% on the approved sales of 3078.09 MU. The Commission has considered the approval of revised sales estimates and the inter-state losses in this order and accordingly the requirement has been adjusted for the approval under the review of FY 2014-15. The Commission has considered the merit order dispatch principles to meet the power requirement within the state. Accordingly, only the power purchase units as required to meet the requirement within the territory have been considered.

Based on the above, the approved energy balance for the FY 2014-15 is shown in table below:

Table 5.8: Energy Balance proposed and approved by the Commission for FY 2014-15

Sl. No.	Particulars	FY 2014-15 Approved as per T.O. dated 15.04.2014	Revised Estimates FY 2014-15 by Petitioner			Approved for FY 2014-15(RE)		
			H1 of FY 2014-15	H2 of FY 2014-15	FY 2014-15 (RE)	H1 of FY 2014-15	H2 of FY 2014-15	FY 2014-15 (R)
A)	ENERGY REQUIREMENT							
1	Sales within the State/UT	3078.09	1476	1592	3068	1470	1644	3114
2	Distribution losses							
i)	%	11.50%	18.66%	9.18%	14.00%	16.57%*	6.42%	11.50%
ii)	MU	399.98	339	160	499	292	113	405
3	Energy required at State Periphery for Sale to Retail Consumers	3478.06	1815	1752	3567	1762	1757	3519

Sl. No.	Particulars	FY 2014-15 Approved as per T.O. dated 15.04.2014	Revised Estimates FY 2014-15 by Petitioner			Approved for FY 2014-15(RE)		
			H1 of FY 2014-15	H2 of FY 2014-15	FY 2014-15 (RE)	H1 of FY 2014-15	H2 of FY 2014-15	FY 2014-15 (R)
i)	Sales outside state/UT : UI/Under drawal		17			17		17
ii)	Sales							
	a) Through PX							
	b) Traders							
iii)	Sales to other distribution licensees							
	a) Bilateral Trade							
	b) Banking Arrangement (NVVN)							
5	Total Energy Requirement for State	3478.06	1832	1752	3584	1779	1757	3536
6	Transmission losses							
i)	%	4.68%	5.67%	5.18%	5.43%	5.62%	5.35%	5.28%
ii)	MU	170.77	106	90	197	106	91.23	197
7	Total Energy at Generator end	3648.84	1938	1843	3764	1885	1848	3733
B	ENERGY AVAILABILITY / PURCHASED							
1	Net thermal generation (Own+ IPP + Share from Central Stations)	3648.84	1715	1746	3324	1676	1799	3474
a)	Share from Central Sector (NTPC + NPCIL)	3564.64	1671	1653	3324	1632	1706	3337
b)	IPPs		(21)			(21)		(21)
c)	Co-generation within State (GEPL, GSPL & Sesa)	84.19	65	93		65	93	158
2	Net hydel generation (own+shared)			0.00		0.00	0.00	0.00
3	Power Purchased from		206	97	441	210	50	259
	a) Common Pool/UI/ OD		100		100	100	0	100
	b) Traders/ Exchanges		105	93	199	109	46	155

Sl. No.	Particulars	FY 2014-15 Approved as per T.O. dated 15.04.2014	Revised Estimates FY 2014-15 by Petitioner			Approved for FY 2014-15(RE)		
			H1 of FY 2014-15	H2 of FY 2014-15	FY 2014-15 (RE)	H1 of FY 2014-15	H2 of FY 2014-15	FY 2014-15 (R)
	c) Renewable Energy Sources		1	4	142	1	4	5
	d) Banking Arrangement (NVVN)					0	0	0
4	Gross power purchase	3648.83	1921	1843	3764	1885	1848	3733

**On verification of Power Purchase bills produced, the purchase from NPCIL TAPS 3&4 station for H1 of FY 2014-15 was only 46.60 MU against 85.78 MU mentioned by the Petitioner in the Format 4 and ARR. Based on the actual power purchased from NPCIL TAPS 3&4, the distribution loss for H1 works out to 16.57% and not 18.66 as mentioned by the Petitioner.*

5.7 Power Purchase Quantum and Cost

Petitioner's Submission

Power Purchase Cost for H1 FY 2014-15

The ED-Goa meets its total energy requirement from its allocation from the Central Generating Stations (CGS), Private Generators like Reliance Infrastructure Ltd., State based Co-generation facilities, Power Exchanges etc. The ED-Goa receives power from CGS like NTPC and NPCIL as per allocation from time to time. The power purchases from other sources such as Co-generation, IPP have been considered as per PPAs.

The ED – Goa on a real time basis has also overdrawn/under drawn power from both WR & SR grid.

However the under drawal and the revenue from it are shown separately in ARR format (not netted off from power purchase cost).

Transmission Charges H1: The transmission charge for the 1st half of FY 2014-15 comprise of transmission charges to Western Region, Southern Region, KPTCL and other Transmission Licensees. The transmission charge comes to around Rs. 65.47 Cr

Power Purchase Cost for H2 of FY 2014-15

Power Purchase Fixed Cost for H2 FY 2014-15: The fixed charges for CGS have been taken in line with the cost actually incurred by ED-Goa during the first half of FY 2014-15. The fixed cost has been considered only for CGS stations.

Power Purchase Variable Cost for H2 FY 2014-15: The variable cost for CGS stations for FY 2014-15 has been computed considering per unit cost from the invoices submitted for the month of Oct and Nov 2014. The variable cost per unit for Co-Generating Stations (existing as well as upcoming) has been taken at **Rs. 2.40/Unit** in line with the PPA signed with the Generators.

Power Purchase cost of Traders for FY 2014-15: The cost for power purchase from traders for H2 is considered as per LOI issued by the ED-Goa.

Power Purchase from Renewable Energy Sources:

Solar RPO: As regards fulfillment of Solar RPO is concerned, PPA has been executed by the Government with M/s NVVNL, New Delhi on 22nd August, 2014 for supply of 6 MW (approx. 10MU) of solar power for a period of 5 years @ Rs. 7.99 per unit exclusive of transmission charges. The supply has started w.e.f. August 28th, 2014.

Further M/s Solar Energy Corporation of India, New Delhi vide letter No. SECI/JNNSM/P-2/B-1/Power Sale/851 dated 11th July 2014, has allocated 10 MW of

solar power to the State and also submitted Power Sale Agreement (PSA). The PSA to be executed with SECI has been submitted to the Government for approval for execution. The SECI will be supplying solar power of 10 MW @ Rs. 5.50 per unit, (including its commission of Rs. 0.05 per unit) exclusive of transmission charges for a period of 25 years. It is anticipated that PSA will be executed shortly after negotiations on legal clauses and shall fulfill the solar RPO from 2015-16 till the next 25 years.

Non-Solar RPO: Tender was invited by the Electricity Department – Goa for fulfillment of non-solar RPO of FY 2014-15 and further 4 years period. There were three offers against the tender. The lowest offer was @ Rs. 6.10 per unit at Goa periphery but the commencement of supply was from 1/4/2015. Another offer was @ Rs. 7.25 at Goa periphery for commencement of power from the current year itself.

As the rates offered were on the higher side and considering miniscule business of ED-Goa, it is decided to purchase RECs to meet Non-Solar RPO for FY 2014-15 and subsequent financial years. ED – Goa has planned to purchase RECs equivalent to 82 MUs in FY 2014-15.

Table 5.9: Solar & Non-Solar RPO Status FY 2014-15

Sl. No.	Description	FY 2013-14	FY 2014-15
1	Sale within State	2977.29	3067.92
2	RPO Obligation in (%)		
	Solar	0.40%	0.60%
	Non Solar	2.60%	2.70%
3	RPO Obligation in (MUs)		
	Solar	11.91	18.41
	Non Solar	77.41	82.83
4	Short fall of RPO Obligation in Past years (MUs)		
	Solar	19.78	0.00
	Non Solar	0.00	0.00
5	Total RPO Obligation including Past years (MUs)		
	Solar	31.69	18.41
	Non Solar	77.41	82.83
6	RPO Compliance during the year (MUs)		
	Solar	0.00	4.75
	Non Solar	0.00	0.00
7	Short fall of RPO Compliance (MUs)		
	Solar	31.69	13.66
	Non Solar	77.41	82.83
8	REC Certificate Purchase (MUs)		
	Solar	0.00	0.00
	Non Solar	0.00	85.00
9	Cumulative Short fall in RPO Compliance (MUs)		
	Solar	31.69	45.35
	Non Solar	77.41	75.24
10	REC Certificate Price (Rs. / Unit)		
	Solar	0.00	9.30
	Non Solar	0.00	1.50
11	REC Certificate Cost (Rs. Cr)		
	Solar	0.00	0.00
	Non Solar	0.00	12.75
	Total		12.75

The Commission is requested to approve the purchase of REC as stated in the table above, that are proposed in order to meet the RPO Obligation. The Petitioner submits that it has ensured the compliance of RPO in FY 2014-15.

Transmission Charges FY 2014-15 (H2): The Transmission Charges for FY 2014-15 are considered as per POC computation, i.e. Part A – Transmission charge for withdrawal

of power and part B – Transmission charges of generators. Further, the transmission charge has also been considered factoring the wheeling charges pertaining to KPTCL. The transmission charges from KPTCL have been worked out by considering wheeling charge of **7.50 paisa/unit** on power drawal from Ramagundam Plant.

The transmission charges for 2nd half of FY 2014-15 are computed based on the rates provided in the Regional Transmission Account Statement for November 2014.

Accordingly, the Transmission Charges for 2nd half of FY 2014-15 is considered at **Rs. 71.23 Crore.**

Power Purchase Cost summary FY 2014-15: In line with the foregoing paragraphs, the total Power Purchase for FY 2014-15 is summarized in the table below:

Table 5.10: Projected Power Purchase Summary for FY 2014-15

Sl. No	Particulars	FY 2014-15 Approved in T.O. dated April 15, 2014		FY 2014-15 (Rev. Estimate)	
		Purchase (MUs)	Total Cost (Rs. Cr)	Purchase (MUs)	Total Cost (Rs. Cr)
1	NTPC	3216	676.43	3088	753.45
2	RGPPPL	154	55.39	0	7.55
3	NPCIL	194	50.58	235	52.17
4	Traders		0.00	199	70.09
5	Overdrawal		0.00	100	51.21
6	Co-Generation	84	19.86	158	38.10
7	IPP		7.44	(21.00)	(2.76)
8	Renewable Energy Source		29.64	5	16.73
9	Transmission charges		94.61	0	136.70
	Grand total	3648	933.95	3764	1123.23
Per Unit cost (Rs./kWh)			2.56		2.98

The deviation in power purchase cost for FY 2014-15 as compared to approved is due to the following reasons.

- Higher transmission charges as compared to approved since the Commission had not allowed any escalation on transmission charges while estimating cost for FY 2014-15.
- Purchase of power from short term sources and grid over-drawal as envisaged/ /approved power quantum from NTPC and RGPPPL was unavailable.
- Renewable energy cost has been on the lower side due to non-fulfillment of RPO for FY 2014-15.

It is requested the Commission to approve the power purchase cost including transmission charges at Rs. 1,123.23 Cr for FY 2014-15 as per revised workings and at an average cost of Rs. 2.98 / kWh. Further the Regional Energy Accounts (REA) and Regional Transmission Accounts (RTA) for the Period from April 2014 to September 2014 are provided in soft format along with the petition for verification and scrutiny of the Commission.

Commission's Analysis

While estimating the energy availability and cost for FY 2014-15, the Commission has considered the actual power purchase and the cost submitted by the Petitioner for the

first half of FY 2014-15 from NTPC, IPP, Co-gen, & other sources. The Commission during the technical validation sessions, randomly verified the station-wise power purchase bills and exercised due diligence in the validation of the power purchase costs incurred by the licensee for the period April to September 2014. The Commission also verified the energy procured from the Regional Energy Account as recorded by the Western Region Power Committee and Southern Region Power Committee.

Accordingly, the power purchase cost approved for the FY 2014-15 (April to September) is shown in the table below:

Table 5.11: Approved Power Purchase for H1 FY 2014-15 (April to September)

Sl. No.	Source	Purchase (MU)	FC (Rs. Cr)	VC (Rs. Cr)	Others (Rs. Cr)	Supplementary (Rs. Cr)	Total (Rs. Cr)
A	Central Sector Power Stations						
I	NTPC						
1	Korba STPS	724.22	40.70	75.62	4.64	(3.81)	117.15
2	Korba STPS - III	18.3	3.00	1.90	0.12	0.04	5.06
3	Vindhyachal STPS - I	115.04	7.77	17.33	0.74	6.11	31.95
4	Vindhyachal STPS - II	42.81	2.82	6.11	0.26	3.07	12.26
5	Vindhyachal STPS - III	36.63	4.19	5.09	0.26	2.18	11.72
6	Vindhyachal STPS - IV	42.42	6.10	6.02	0.25	(0.46)	11.91
7	Kawas GPS	27.22	3.51	7.30		0.03	10.84
8	Gandhar GPS	27.36	4.57	6.89		0.01	11.47
9	Sipat Stage I	77.75	11.59	11.52	0.43	0.08	23.62
10	Ramagundam STPS	353.42	20.99	84.57	0.27	0.37	106.20
11	Sipat Stage II	37.49	5.08	5.63	0.23	1.52	12.46
12	Mouda STPS	31.89	5.77	11.84		(0.75)	16.86
	Less: Additional rebate	0.00				(0.31)	(0.31)
	Sub Total	1,534.56	116.09	239.81	7.20	8.08	371.18
II	RGPPL	0		7.55			7.55
	Sub Total	0	0.00	7.55	0.00	0.00	7.55
III	NPCIL						
	KAPS Unit 1 & 2	50.50		12.42			12.42
	TAPS Unit 3 & 4	46.6		7.53			7.53
	Sub Total	97.1	0.00	19.95	0.00	0.00	19.95
IV	Traders						
	NVVN STOA	56.32		19.88*			19.88
	Power Trading Company STOA	44.01		16.45			16.45
	Tata Power Trading Company	8.49		2.82			2.82
	Sub Total	108.82	0	39.15	0.00	0.00	39.15

Sl. No.	Source	Purchase (MU)	FC (Rs. Cr)	VC (Rs. Cr)	Others (Rs. Cr)	Supplementary (Rs. Cr)	Total (Rs. Cr)
V	Net Over Drawal	100.03	0	51.21			51.21
	Total (A)- Central Stations	1,840.51	116.09	357.67	7.20	8.08	489.04
B	Within State Generations						
I	CO-GENERATION						
	Goa Energy Private Limited	62.13		14.98			14.98
	Goa Sponge & Power Limited	3.34		0.80			0.80
	Sesa Goa Limited	0.00					0.00
	Sub Total	65.47	0	15.78	0	0	15.78
C	IPP:						
	Reliance Infra	(21.40)		(2.76)			(2.76)
	Sub Total	(21.40)	0.00	(2.76)	0.00	0.00	(2.76)
D	RPO Obligation						
	REC Certificates (Non-Solar)	0					0.00
	NVVN Solar	0.75		0.63			0.63
	Sub Total	0.75	0.00	0.63	0.00	0.00	0.63
E	Other Charges						
	PGCIL Transmission Charges, Wheeling, Open Access & Trading, Margin & Other Charges				65.47		65.47
	Sub Total	0	0	0	65.47	0	65.47
	Total (B+C+D+E)	44.82	0.00	13.65	65.47	0.00	79.12
F	Grand Total	1,885.33	116.09	371.32	72.67	8.08	568.16

* On verification of bills the variable cost has been arrived at Rs. 19.88 Cr. instead of 18.67 Cr. as projected by the Petitioner.

Power Purchase quantum and cost for FY 2014-15 (October to March)

The Commission for power procurement from NTPC stations, NPCIL stations and power from co-generation plants for the period October 2014 to March 2015 has adopted the following approach.

Central Generating Stations – NTPC and NPCIL

The Petitioner has firm allocation in the Central Sector Generating Stations of NTPC from the following stations

- Korba Super Thermal Power Station Stage 1 ,2 and 3
- Vindhyachal Super Thermal Power Station Stage I, II,III and IV
- Kawas Gas Power Station
- Gandhar Gas Power Station
- Sipat Super Thermal Power Station Stage I &2
- Ratnagiri Gas and Power Pvt Ltd.
- Ramagundam Super Thermal Power Station Stage 1 and 2
- Mauda Super Thermal Power Station

The Commission while estimating the energy availability from the above stations has considered the following assumption:

- *Allocation of Share:* The Commission has considered the firm allocation and allocation from the unallocated quota from the above stations except Ramagundam STPS as per the notification of the Western Region Power Committee vide WRPC/Comml-I/6/Alloc/2014/10874 dated December 3, 2014. The allocation for Ramagundam STPS is considered as per the notification of the Southern Region power Committee vide SRPC/SE-I/54/UA/2013/9182-231 dated August 22, 2013.
- *Gross Energy Availability:* The Commission has estimated the gross energy availability from the existing NTPC stations based on the installed capacity and the average Plant Load Factor for the past three years (FY 2011-12 and FY 2012-13 and FY 2013-14). The net energy sent out has been considered after reducing the applicable auxiliary consumption as per the CERC Tariff Regulation, 2009.
- *Energy Available to the Petitioner:* The effective share from the stations is applied on the energy sent out to arrive at the energy available for the Petitioner from respective stations.

The Commission has considered the following assumptions to arrive at the power purchase cost for the FY 2014-15 from the NTPC stations:

- *Fixed Charges:* The fixed charges are considered based on the formula specified for the stations in the CERC Tariff Regulations, 2009. The Annual Fixed Charges for each stations have been taken as per the latest Tariff orders for the respective stations.

Variable Charges: The Commission has considered the average variable cost per unit as projected by the Petitioner (The per unit variable charges for Generating stations, considering per unit cost from the invoices submitted for the month of Oct, Nov 2014).

- *Merit Order Dispatch:* Further, the NTPC stations have been subjected to merit order dispatch and accordingly the power purchase quantum and variable cost are approved. However, the fixed charges are approved for all stations.

Accordingly, the Commission approves the following availability from NTPC stations based on the merit order dispatch principles.

Table 5.12: Approved Power purchase quantum from NTPC stations under merit order dispatch for H2 of FY 2014-15

Source	Capacity	Average PLF	Weighted Average Allocation		Gross Generation	Auxilliary Consumption	Net Generation	Power Purchase (6 Months)
	(MW)		%	MW	(MU)	(%)	(MU)	(MU)
Korba STPS	2100.00	85.08%	10.19%	182.06	1594.87	8.50%	1459.31	729.65
Korba STPS – III	500.00	85.08%	1.29%	5.49	48.07	9.00%	43.75	21.87
Vindhyachal STPS-I	1260.00	78.03%	3.07%	30.18	264.41	5.25%	250.53	125.26
Vindhyachal STPS-II	1000.00	78.03%	1.48%	11.55	101.16	5.25%	95.85	47.93
Vindhyachal STPS-III	1000.00	78.03%	1.28%	9.99	87.49	5.25%	82.90	41.45
Vindhyachal STPS-IV	1000.00	78.03%	1.51%	11.78	103.21	9.00%	93.93	46.96
Kawas GPS	656.20	36.09%	1.89%	4.48	39.21	3.00%	38.03	19.02
Gandhar GPS	657.39	41.21%	1.93%	5.23	45.80	3.00%	44.43	22.21
Sipat Stage I	1980.00	79.66%	1.40%	22.08	193.44	5.25%	183.28	91.64
Ramagundam STPS	2100.00	84.14%	4.76%	84.11	736.77	8.50%	674.15	337.07
Sipat Stage II	1000.00	79.66%	1.22%	9.72	85.13	5.25%	80.66	40.33
Mouda STPS	1000.00	85.00%	1.17%	9.95	87.12	9.00%	79.28	39.64
Additional 20 MW for 3 Months	20.00	85.00%	100.00%	17.00	148.92	5.25%	141.10	35.28
Total	14273.59			403.61	3535.61		3267.19	1598.32

According to the approved energy availability, the commission has approved the following cost from the NTPC stations:

Table 5.13: Approved Power purchase Cost for H2 FY 2014-15 from NTPC stations

Source	Power Purchase (6 Months)	PGCIL Losses	Energy Available at Periphery	Fixed Charges	Variable Cost (H2 FY 2014-15)	Variable Charges	Total Charges
	(MU)	(%)	(MU)	(Rs. Crore)	(Ps/Unit)	(Rs. Crore)	(Rs Crore)
Korba STPS	729.65	3.71%	702.58	40.70	92.17	67.25	107.95
Korba STPS - III	21.87	3.71%	21.06	3.00	90.91	1.99	4.99
Vindhyachal STPS - I	125.26	3.71%	120.62	7.77	177.58	22.24	30.01
Vindhyachal STPS – II	47.93	3.71%	46.15	2.82	168.26	8.06	10.88
Vindhyachal STPS III	41.45	3.71%	39.91	4.19	167.93	6.96	11.15
Vindhyachal STPS IV	46.96	3.71%	45.22	6.10	167.91	7.89	13.99
Kawas GPS	19.02	3.71%	18.31	3.51	297.35	5.65	9.16
Gandhar GPS	22.21	3.71%	21.39	4.57	284.59	6.32	10.89
Sipat Stage I	91.64	3.71%	88.24	11.59	136.82	12.54	24.13
Ramagundam STPS	337.07	12.00%	296.62	20.99	240.08	80.92	101.91
Sipat Stage II	40.33	3.71%	38.84	5.08	133.79	5.40	10.48

Source	Power Purchase (6 Months)	PGCIL Losses	Energy Available at Periphery	Fixed Charges	Variable Cost (H2 FY 2014-15)	Variable Charges	Total Charges
	(MU)	(%)	(MU)	(Rs. Crore)	(Ps/Unit)	(Rs. Crore)	(Rs Crore)
Mouda STPS	39.64	3.71%	38.17	5.77	388.9	15.42	21.19
Additional 20 MW FOR 3 Months	35.28	3.71%	33.97	5.38	275.19	9.71	15.09
Total			1,511.08	121.47	2,621.48	250.35	371.82

➤ **Central Generating Stations – Nuclear Power Corporation of India Limited**

The Petitioner has firm allocation in the Central Sector Generating Stations of NPCIL from the following stations:

- Kakrapara Atomic Power Station
- Tarapur Atomic Power Station

The Commission while estimating the energy availability from the above stations has considered the following:

- *Allocation of Share:* The Commission has considered the firm allocation and allocation from the unallocated quota from the above stations as per the Western Regional Power Committee vide WRPC/Comml-I/6/Alloc/2014/10874 dated December 3, 2014.
- *Gross Energy Availability:* The Commission has estimated the gross energy availability from the existing NPCL stations based on the installed capacity and the average Plant Load Factor for the past two years (FY 2012-13 and FY 2013-14) as recorded by CEA in its monthly generation reports. The net energy sent out is considered after reducing the auxiliary consumption.
- *Energy Available to the Petitioner:* The effective share from the stations is applied on the energy sent out to arrive at the energy available for the Petitioner from respective stations.

The Commission has considered the following assumptions to arrive at the single part tariff for the NPCIL stations during FY 2014-15:

- *Variable Charges:* The Commission has considered the average variable cost per unit as projected by the Petitioner (The per unit variable charges for Generating stations, considering per unit cost from the invoices submitted for the month of Oct, Nov 2014).
- *Merit order Dispatch:* The Commission has considered the nuclear plants as must run and has not subjected them to merit order dispatch.

Accordingly, the Commission approves the following availability from NPCIL stations.

Table 5.14: Approved Power purchase quantum from NPCIL stations under merit order dispatch for H2 of FY 2014-15

Source	Capacity	Average PLF	Weighted Average Allocation		Gross Generation	Auxilliary Consumption	Net Generation	Power Purchase (6 Months)
	(MW)		%	MW	(MU)	(%)	(MU)	(MU)
Kakrapar APS 1 & 2	440.00	86.52%	3.64%	13.86	121.39	10.00%	109.25	54.62
Tarapur Unit 3 & 4	1080.00	93.32%	1.33%	13.40	117.42	10.00%	105.68	52.84
Total	1520.00			27.26	238.81		214.93	107.46

According to the approved energy, the Commission has approved the following cost from the NPCIL stations.

Table 5.15: Approved Power purchase Cost for NPCIL Stations for H2 of FY 2014-15

Source	Power Purchase (6 Months)	PGCIL Losses	Energy Available at Periphery	Fixed Charges	Variable Cost (H2 FY 2014-15)	Variable Charges	Total Charges
	(MU)	(%)	(MU)	(Rs. Crore)	(Ps/Unit)	(Rs. Crore)	(Rs Crore)
Kakrapar APS 1& 2	54.62	3.71%	52.60	0.00	237.71	12.98	12.98
Tarapur Unit 3 & 4	52.84	3.71%	50.88	0.00	287.88	15.21	15.21
Total	107.46		103.48	0.00	525.59	28.20	28.20

➤ **Co-Generation**

The Petitioner has contracted Power from the following Co-Generation plants

- Goa Energy Private Limited
- Goa Sponge and power Limited
- Sesa Goa Limited

The Commission has considered the following assumptions for estimation of energy availability and Power Purchase cost from the above stations.

- *Energy Availability:* The energy availability has been considered as per the Petitioner's Submission.
- *Variable Charges:* The Commission has considered the rates at Rs. 2.40/unit in line with the PPA signed with the Generators.
- *Merit Order Dispatch:* The Commission in order to promote the purchase from alternative sources of energy has considered these plants as must run stations which are not subjected to merit order dispatch

Table 5.16 Approved Power purchase quantum and Cost for Co-Gen for H2 of FY 2014-15

Source	Purchase	Energy Available at Periphery	Fixed Charges	Variable Cost	Variable Charges	Total Charges
	(MUs)	(MUs)	(Rs Cr)	(Ps/Unit)	(Rs Cr)	(Rs Cr)
Goa Energy private Limited	62.13	62.13	0.00	240.00	14.91	14.91
Goa Sponge & Power Limited	3.34	3.34	0.00	240.00	0.80	0.80
Sesa Goa Limited	27.50	27.50	0.00	240.00	6.60	6.60
Total	92.97	92.97	0.00		22.31	22.31

➤ **IPP**

The Petitioner has not projected any power purchase from IPP for H2 of FY 2014-15 and the Commission has not considered any.

➤ **Traders**

The Petitioner has contracted Power from the following Traders

- Adani Enterprises

The Commission has considered the following assumptions for estimation of energy availability and Power Purchase cost from the above stations.

- **Energy Availability:** The energy availability has been considered as per the requirement for the H2 of FY 2014-15.
- **Variable Charges:** The Commission has considered the rates at Rs. 3.44/unit in line with the PPA signed with the Traders

Accordingly, the Commission approves the following availability and Power Purchase Cost from trades as given in the Table below:

Table 5.17: Approved Power purchase quantum and Cost for Traders for H2 of FY 2014-15

Source	Purchase	Energy Available at Periphery	Fixed Charges	Variable Cost	Variable Charges	Total Charges
	(MUs)	(MUs)	(Rs Cr)	(Ps/Unit)	(Rs Cr)	(Rs Cr)
Adani Enterprises	45.88	45.88	0.00	344.34	15.80	15.80

➤ **Transmission Charges (PGCIL, NRLDC F&C and Reactive Energy Charges)**

The transmission charges for H2 of FY 2014-15 are approved at Rs. 71.23 Crore as computed based on the rates provided in the Regional Transmission Accounts Statement of November 2014 and as proposed by the Petitioner.

➤ **Power Purchase Cost Approved**

For determining the power purchase cost, merit order dispatch principle is applied as elaborated in the foregoing. The must-run stations have been assumed at the top of the merit order and variable cost incurred for meeting the energy requirement within the state has been calculated from these plants to ascertain the merit order.

In accordance with the foregoing paragraphs, the Commission has approved the following Power Purchase Cost.

Table 5.18: Power Purchase cost approved for October 14 to March 2015

Source	Purchase	PGCIL Losses	Energy Available at Periphery	Fixed Charges	Variable Charges	Total Charges
	(MUs)	(MUs)	(MUs)	(Rs Cr)	(Rs Cr)	((Rs Cr)
NTPC Stations	1,598.32	87.24	1,511.08	121.47	250.35	371.82
NPCIL Stations	107.46	3.99	103.48	0.00	28.20	28.20
Co-Generation	92.97	0.00	92.97	0.00	22.31	22.31
IPP	0.00	0.00	0.00	0.00	0.00	0.00
Traders	45.88	0.00	45.88	0.00	15.80	15.80
RPO	4.00	0.00	4.00	0.00	16.10	16.10
Transmission Charges	0.00	0.00	0.00	0.00	0.00	71.23
Total	1,848.63	91.23	1,757.41	121.47	332.76	525.46

The power purchase cost thus allowed for the entire FY 2014-15 is summarized in the table below:

Table 5.19: Power Purchase cost approved for FY 2014-15

Source	Approved in order dated 15.04.2014		Revised Estimates by Petitioner FY 2014-15		Approved					
					H1 FY 2014-15		H2 FY 2014-15		FY 2014-15	
	Purchase	Total Cost	Purchase	Total Cost	Purchase	Total Cost	Purchase	Total Cost	Purchase	Total Cost
	(MU)	Rs. Cr	(MU)	Rs. Cr	(MU)	Rs. Cr	(MU)	Rs. Cr	(MU)	Rs. Cr
NTPC (incl RGPPL)	3370.40	731.82	3088.00	761.00	1534.56	378.73	1598.32	371.82	3132.88	750.55
NPCIL	194.30	50.58	235.00	52.17	97.10	19.95	107.46	28.20	204.56	48.14
Co-Gen	84.19	19.86	158.00	38.10	65.47	15.78	92.97	22.31	158.44	38.10
Renewable Energy	0.00	29.64	5.00	16.73	0.75	0.63	4.00	16.10	4.75	16.73
IPP	0.00	7.44	(21.00)	(2.76)	(21.40)	(2.76)	0.00	0.00	(21.40)	(2.76)
Traders	0.00	0.00	199.00	70.09	108.82	39.15	45.88	15.80	154.70	54.95
Overdrawl	0.00	0.00	100.00	51.21	100.03	51.21	0.00	0.00	100.03	51.21
Transmission Charges	0.00	94.61	0.00	136.70	0.00	65.47	0.00	71.23	0.00	136.70
Total	3648.89	933.95	3764.00	1123.24	1885.33	568.16	1848.63	525.46	3733.96	1093.62

It may be noted that the variation from the approval of the Commission in the last order is broadly attributable to the following reasons.

1. Variation of the sales admitted in this review;
2. Purchases from IPP during the first half of the FY 2014-15;
3. Non availability of power from Renewable sources as envisaged by the Commission;
4. Supplementary bills amounting to Rs. 15.28 Cr raised by NTPC on account of variation in CERC regulation/orders and supplementary charges like ED cess, green cess and FERV (foreign exchange rate variation) during first half of FY 2014-15;
5. UI under/over drawal which was not considered by the Commission in the approved cost of power purchase/sale of energy in the Tariff Order dated April 15, 2014.

5.8 Renewable Purchase Obligations

As per JERC (Procurement of Renewable Energy) Regulations 2010 Clause 1 sub clause (1):

"Each distribution licensee shall purchase electricity (in kWh) from renewable energy sources, at a defined minimum percentage of the total consumption of all the consumers in its area during a year."

The Commission as per its order dated January 2, 2014 has specified the RPO obligations of the utilities, and accordingly the RPO has been considered as 3.3% for FY 2014-15 i.e. 0.6% from solar and 2.70% from non-solar sources.

The Commission in its order dated 15th April, 2014 has considered fulfilling the RPO Obligation through REC certificates at Rs. 4.00 and Rs. 9.00 per Unit for non-solar and solar respectively with the Provision that the Petitioner can explore alternatives for fulfillment of RPO that would be considered at the time of True up.

The Commission in order to determine the RPO in terms of units has considered the approved sales for the FY 2014-15. The computation of cost of RPO for FY 2014-15 is shown in the table below.

Table 5.20: Approved RPO Obligations for FY 2014-15

Sl. No.	Description	FY 2014-15
1	Sales Within State	3114.41
2	RPO Obligation (in %)	
	- Solar	0.60%
	-Non Solar	2.70%
3	RPO Obligation (in MU)	
	- Solar	18.69
	-Non Solar	84.09
4	RPO Compliance (Actual Purchase)	
	- Solar	4.75
	-Non Solar	0
5	RPO Compliance (REC Certificate Purchase)	
	- Solar	0
	-Non Solar	0
6	Total RPO Compliance	
	- Solar	4.75
	-Non Solar	0
7	Shortfall in RPO Compliance	
	- Solar	13.94
	-Non Solar	84.09
8	Floor Price of REC Certificates /MWH	
	- Solar	5800*
	-Non Solar	1500
9	Provision for RPO Compliance	
	- Solar	8.08
	-Non Solar	12.61
	-Total	20.70

* The rate is considered as per the latest CERC order dated 30th December, 2014.

Therefore, the Commission has considered the above cost of Rs 20.70 Cr towards fulfillment of the RPO over and above the power purchase cost approved at section 5.7 of this order.

5.9 Operation and Maintenance Expenses

Operation & Maintenance expenses comprise of the following heads of expenditure viz.

- Employee Expenses
- Administration & General Expenses
- Repairs & Maintenance Expenses

Operation & Maintenance Expenses consists of three elements viz. Employee Expenses, A&G Expense and R&M Expense:

- Employee expenses comprise of salaries, dearness allowance, bonus, terminal benefits in the form of pension & gratuity, leave encashment and staff welfare expenses.

- Administrative expenses mainly comprise of rents, telephone and other communication expenses, professional charges, conveyance and travelling allowances and other debits.
- Repairs and Maintenance Expenses go towards the day to day upkeep of the distribution network of the Company and form an integral part of the Company's efforts towards reliable and quality power supply as also in the reduction of losses in the system.

5.9.1 Employee Cost

Petitioner's Submission

The Petitioner has computed the O &M (Employee Expense) expense for FY 2014-15 based on the actual employee expenses till September 2014. Further the ED-Goa has considered employee expenses based on increase in number of employees during 2nd half of the 2014-15. The total employee cost is re- estimated at Rs. 231.00 Cr. including pension provision of Rs. 5.28 Cr. computed for permanent employees at the rate of average yearly contribution of Rs. 11 Lakhs for FY 2014-15 as against the approved figure of Rs. 152.42 Cr.

Commission's Analysis

As per JERC Tariff Regulations –

"O&M expenses as approved by the Commission for the first time for a year shall be considered as base O&M expenses for determination of O&M expenses for subsequent years;

Base O&M expenses as above shall be adjusted according to variation in the rate of WPI per annum to determine the O&M expenses for subsequent year, where WPI is the Wholesale Price Index on April 1 of the relevant year;"

The Commission had approved the Employee Cost in its Tariff order dated April 15, 2014 by escalating the expenses of FY 2013-14 with the available WPI (WPI index till Jan 2014) over the approved employee expenses of FY 2013-14.

The Commission while approving the employee expenses for FY 2012-13 has shown its concern for the high employee expenses. The Commission in its Tariff Order for FY 2012-13 had suggested that the Petitioner should bring down its labor cost to bring it closer to the all India average. The Commission has also directed the Petitioner to carry out an Employee Cost / Manpower Study. The report on the Manpower Study has been submitted by the Petitioner, which is being scrutinized separately.

However, from the submitted report, the Commission observes that the existing employees per thousand consumers in Goa is around 10 which is higher. The Commission also observes that ED-Goa still has the employees such as draughts men, mechanics, mason mistries, plumbers, carpenters, turners/fitters, welders, dafties, lift operators, blue printers etc., who have no contribution to the main work of the ED-Goa business. The Commission is of the view that with development of technology, the requirement of employees per thousand consumers has decreased across utilities in India. In view of this, the existing sanctioned posts need review. The Commission therefore directs the Petitioner to review the sanctioned posts and compare them with the other utilities in India, abolishing such unproductive posts as indicated above.

The Petitioner has not submitted the True up for FY 2011-12, FY 2012-13 and FY 2013-14, therefore the Commission is not in a position to do a prudence check for the base year expenses. The Commission has therefore considered the employee expenses at the approved level of FY 2014-15 as per the order for FY 2014-15 dated April 15, 2014 for the purpose of review, accordingly approved the Employee Expenses of Rs 152.42 Cr.

Table 5.21: Employee expenses approved for FY 2014-15 (RE)

Sl. No.	Particulars	FY 2014-15		
		Approved in T.O. dated April 15, 2014	Revised Estimates by the Petitioner	Approved in Review
1	Employee Expenses	152.42	231.00	152.42

5.9.2 A&G Expenses**Petitioner's Submission**

Administrative expenses mainly comprise of rents, telephone and other communication expenses, professional charges, conveyance and travelling allowances and other debits.

The Commission in the Tariff Order for FY 2014-15 had approved A&G expenses based on inflation over FY 2013-14. The actual expense for first six months period from April-September 2014 is Rs. 3.27 Cr.

Further the ED-Goa has considered the revised budget estimates submitted to the Government of Goa for the purpose of revised projections of FY 2014-15 in this petition. The A&G expenses based on provisional actuals and revised estimates for the year FY 2014-15 compute to Rs. 9.46 Cr. The Hon'ble Commission is requested to approve A&G expenses as per revised projections for FY 2014-15.

Commission's Analysis

The Commission in its order dated April 15, 2014 had approved the A&G expenses of Rs. 9.60 Cr by escalating the A&G expenses approved for FY 2013-14 with the available WPI. The Petitioner has also submitted that the actual A&G expenses for the first half of FY 2014-15 have been only Rs. 3.27 Crore against the approved figure of Rs. 9.60 Cr for FY 2014-15.

The Petitioner has not submitted the True up for FY 2011-12, FY 2012-13 and FY 2013-14, therefore the Commission is not in a position to do a prudence check for the base year expenses. The Commission has therefore considered the A&G expenses at Rs. 9.46 Crore as projected by the Petitioner which is lower than the approved figure of Rs. 9.60 Crore for FY 2014-15 in the Tariff Order dated April 15, 2014.

Table 5.22: A&G expenses approved for FY 2014-15 (RE)

Sl. No.	Particulars	FY 2014-15		
		Approved in T.O. dated April 15, 2014	Revised Estimates by the Petitioner	Approved in Review
1	A&G Expenses	9.60	9.46	9.46

The Commission has therefore considered A&G expenses of Rs.9.46 Crore in review for FY 2014-15.

5.9.3 R&M Expenses**Petitioner's Submission**

The ED-Goa has been carrying out various R&M activities as a step towards improvement of systems, reduction in breakdowns, reduction in response time and increasing preventive maintenance. The R&M activities carried out pertain to Plant & Machinery, Hydraulic works, civil works etc.

The ED-Goa has submitted that it actually incurred an amount of Rs. 16.34 Cr as R&M expenses in the first six months period from April-September 2014. Further the ED-Goa has considered the revised budget estimates submitted to Government of Goa for the purpose of revised projections of FY 2014-15 in this petition. The R&M expenses based on provisional and revised estimates for the year FY 2014-15 compute to Rs. 44.33 Cr.

Commission's Analysis

The Commission had approved the R&M expenses in its order dated April 15, 2014 by escalating the expenses to Rs. 20.73 Cr for FY 2013-14 with the available WPI of 5.69%.

The Petitioner has submitted the R&M expenses for the first half of FY 2014-15 at Rs. 16.34 Cr and estimated the full year expenses at Rs. 44.33 Cr., projecting Rs. 27.99 Crore for the 2nd half year of FY 2014-15. The Commission had sought clarification on the increase in the estimated R&M expenses over the approved level of Rs. 20.73 Crore. But no information has been received from the Petitioner.

Further, the Petitioner has not submitted the True up for FY 2011-12, FY 2012-13 and FY 2013-14; therefore the Commission is not in a position to do a prudence check of the R&M expenses.

The Commission, in view of the above, is compelled to consider the R&M expenses provisionally at Rs. 20.73 crore as approved in the Tariff Order dated 15th April, 2014 subject to true up based on audited accounts as given in the Table below:

Table 5.23: R&M expenses approved for FY 2014-15 (RE)

Sl. No.	Particulars	FY 2014-15		
		Approved in T.O. dated April 15, 2014	Revised Estimates by the Petitioner	Approved in Review
1	R&M Expenses	20.73	44.33	20.73

Summary of O&M Expenses approved for FY 2014-15 (RE)

The O&M expenses as submitted and approved for FY 2014-15 are as below:

Table 5.24: O&M expenses approved for FY 2014-15(RE)

Sl. No.	Particulars	Approved in T.O. dated April 15, 2014	FY 2014-15 Revised Estimates by the Petitioner	
			Approved in Review	
1	Employee Expenses	152.42	231.00	152.42
2	A&G Expenses	9.60	9.46	9.46
3	R&M Expenses	20.73	44.33	20.73
4	Total O&M Expenses	182.75	284.80	182.61

5.10 Capital Expenditure and Capitalization

Petitioner's Submission

The Capital Work In Progress (CWIP), Gross Fixed Asset (GFA) and Depreciation are shown in the section below.

The ED-Goa has submitted that the gross block considered in FY 2014-15 is based on the Fixed Asset Register (FAR) prepared upto FY 2012-13. The ED-Goa submits that the audited accounts initially were available up to FY 2006-07. It is submitted that the assets created under Electricity Duty Fund are nil upto FY 2012-13. The asset register was prepared upto FY 2012-13 and the subsequent year gross block was derived based on 2012-13 FAR. Due to this there is a sudden jump in the opening GFA of ED-Goa for FY 2014-15 as compared to last submitted and approved GFA. The ED-Goa has submitted that FAR's from FY 2008-09 to FY 2012-13. A gist on the Capital Expenditure & Capitalization for the year FY 2014-15(RE) is shown in the Table below.

Table 5.25: Capital Expenditure and Capitalization projected by the Petitioner for FY 2014-15(RE)

Name of Schemes	FY 2014-15 (Rs. Cr)	
	Capital Expenditure	Capitalization
Development Schemes	55.09	35.07
Schedule Tribe Development Scheme (P)	40	20
Infrastructure development through Electricity Duty (Plan)	70	62.81
Erection Augmentation and Strengthening	21.25	37.25
Normal Development Schemes (Plan)	15.02	15
System Improvement Schemes (Plan)	4	4
Construction of staff quarters and office buildings (Plan)	1.5	1.5
Erection of 220/33 KV 1X50 MVA Sub- Station at Cuncolim	3	3
Erection of 220 KV line from Xeldem to Cuncolim	4	4
Strengthening of 220 KV Transmission Network	10	10
Erection of 2nd 100 MVA transformer at Xeldem 220/110 KV S/S	0.25	0.25
APDRP(State Schemes)	16	16
Restructured Accelerated Power Development and Reforms Programme Part A	42.5	
Research training and human research development	0.1	
Underground Cabling	25	25
(R-APDRP) during Eleventh Plan period	-	
Public Lighting Scheme	1	1
Total	236.44	182.63

As seen from the above table, the majority of the Capex incurred is for Infrastructure Schemes through APDRP, System strengthening schemes and R-APDRP. The total Capital Expenditure and capitalization for FY 2014-15 as per revised estimates is Rs. 236.44 Cr and Rs. 182.63 Crore respectively. The detail of capital expenditure schemes for FY 2014-15 is provided in the Format 5 of Tariff Filing Formats.

Commission's Analysis

The Commission observes that the capital expenditure and the capitalization submitted by the Petitioner for FY 2014-15 is required to meet the increasing demand in the Petitioner's area.

The Petitioner has considered a capitalization of Rs. 182.63 Cr as against Rs. 127.50 Cr approved by the Commission for FY 2014-15 vide its order dated April 15, 2014.

The Petitioner has submitted the Capital Investment Plan which is under scrutiny with the Commission. Further, the Commission for the purpose of ARR computation provisionally considers the capitalization of Rs. 182.63 Cr proposed by the Petitioner for FY 2014-15 subject to the scheme wise approval by the Commission.

5.11 GFA and Depreciation

Petitioner's Submission

Regulation 26 of JERC for the State of Goa and Union Territories (Terms and Conditions for Determination of Tariff) Regulations, 2009 provides for depreciation to be calculated annually at the rate of depreciation specified by the JERC/ CERC from time to time. In line with the Regulation, the ED – Goa has calculated the depreciation at Rs. 51.91 Cr for FY 2014-15 (RE) .The table below shows the working of depreciation:

Table 5.26: GFA and Depreciation projected by the Petitioner for FY 2014-15(RE)

Sl. No.	Particulars	(Rs. Cr)	
		FY 2014-15 Approved in T.O. dated 15th April, 2014	FY 2014-15 (RE) submitted by the Petitioner
1	Opening Value of Assets at the beginning of the year	398.74	961.5
2	Additions during the year	127.5	182.63
3	Gross Fixed Assets at the end of year	526.24	1144.13
4	Rate of Depreciation	5.28%	5.28%
5	Depreciation	24.42	55.59

Commission's Analysis

GFA

The ED-Goa has submitted the Fixed Asset Registers for the years FF 2009-10 to FY 2012-13. The FAR for FY 2013-14 is yet to be submitted. Further, the impact of FAR in terms of Gross Fixed Assets, Depreciation etc. has yet to be taken into the financial statements of the respective years.

The Petitioner does not have a Fixed Asset Register (FAR) for FY 2013-14 at present to support the claim for the opening GFA for FY 2014-15. As such, the opening GFA Value is on assumption basis. The Commission has considered the opening GFA value of assets for FY 2014-15 at Rs. 398.74 Crore as approved in the Tariff Order dated 15th April, 2014.

The Commission has considered the capitalization for FY 2014-15 at Rs.182.63 Crore as submitted by the Petitioner. Accordingly, the Commission considers the GFA for FY 2014-15 as detailed in the Table below:

Table 5.27: GFA approved by the Commission for FY 2014-15 (RE)

(Rs. Cr.)

Sl. No.	Particulars	FY 2014-15		
		Approved in Tariff Order dated 15th April, 2014	Revised Estimates submitted by the Petitioner	Approved by the Commission
1	Opening Value of Assets at the beginning of the year	398.74	961.5	398.74
2	Additions during the year	127.5	182.63	182.63
3	GFA at the end of year	526.24	1144.13	581.37

Depreciation

Regulation 26 of JERC (Terms and Conditions for Determination of Tariff) Regulations, 2009 specifies that depreciation for the assets be calculated annually at the rates specified by the CERC from time to time. The depreciation rates for distribution assets as specified by the CERC vide Appendix-III (Depreciation schedule of CERC (Terms and Conditions of Tariff) Regulations, 2009 have been used to calculate the depreciation. The depreciation for FY 2014-15 has been considered as shown in the table below:

Table 5.28: Depreciation approved for FY 2014-15 (RE)

(Rs. Cr.)

Sl. No.	Particulars	FY 2014-15		
		Approved in order dated April 15, 2014	Revised Estimates	Approved by the Commission
1	Opening Value of Assets at the beginning of the year	398.74	961.5	398.74
2	Additions during the year	127.5	182.63	182.63
3	GFA at the end of year (1+2)	526.24	1144.13	581.37
4	Average GFA (1+3)/2			490.06
5	Rate of depreciation	5.28%	5.28%	5.28%
6	Depreciation (4*5)	24.42	55.59	25.87

The Commission, therefore, approves depreciation as Rs. 25.87 Cr for the review of FY 2014-15.

5.12 Interest and Finance Charges

Petitioner's Submission

The Regulation 29 of JERC (Terms and Conditions for Determinations of Tariff) Regulations, 2009 provides for Interest and Finance Charges on Loans. The ED-Goa has submitted that the majority of capital assets are created out of the equity contribution from Government of Goa and the actual borrowing of loan is only to the extent of the APDRP schemes. ED-Goa has also considered the Letter of Credit charges for payment security charges for claiming rebate on power purchase bills. The total Interest and Finance Charges for the year FY 2014-15 are Rs. 77.39 Cr. The table below shows the Interest and Finance Charges vis-a-vis approved by the Hon'ble Commission.

Table 5.29: Interest & Finance Charges for FY 2014-15(RE) projected by the Petitioner

(Rs. Cr.)

Sl. No.	Particulars	FY 2014-15 Approved in T.O. dated 15th April, 2014	FY 2014-15 (RE) submitted by the Petitioner
1	Opening Normative Loan	256.67	600.35
2	Normative Additions during the year	89.25	83.87
3	Less: Loan Repayment	25.67	55.59
4	Closing Normative Loan	320.25	628.64
5	Average Normative Loan	288.46	614.49
6	Interest Rates - actual	7.99%	11.75%
7	Interest on Loan	23.05	72.42
8	Finance Charges	1.3	4.97
9	Interest on Loan & Finance	24.35	77.39

Commission's Analysis

As per Regulations 25 of JERC Tariff regulations, 2009—

“ Interest and Finance Charges on Loan

(1) For existing loan capital, interest and finance charges on loan capital shall be computed on the outstanding loans, duly taking into account the rate of interest and schedule of repayment as per the terms and conditions of relevant agreements.

(2) Interest and finance charges on loan capital for new investments shall be computed on the loans, duly taking into account the rate of interest and the schedule of repayment as per the terms and conditions of relevant agreements. The rate of interest shall, however, be restricted to the prevailing Prime Lending Rate of the State Bank of India.

(3) The interest rate on the amount of equity above 30% treated as loan shall be the weighted average rate of interest on loan capital of the generating company/licensee:

Provided that interest and finance charges of renegotiated loan agreements shall not be considered, if they result in higher charges:

Provided further that interest and finance charges on works in progress shall be excluded and shall be considered as part of the capital cost.

(4) Interest charges on security deposits, if any, made by the consumers with a generating company/licensee, shall be equivalent to the bank rate or at the rate, if any, specified by the Commission whichever is higher.

(5) In case any moratorium period is availed of, depreciation provided for in the tariff during the years of moratorium shall be treated as repayment during those years and interest on loan capital shall be calculated accordingly.

(6) The Commission shall allow obligatory taxes on interest, commitment charges, finance charges and any exchange rate difference arising from foreign currency borrowings, as finance cost.

(7) Any saving in costs on account of subsequent restructuring of debt shall be passed on to the consumers."

In the instant case, the licensee has not provided the actual value of fixed assets. Hence the servicing of assets in the form of interest on loan and return on assets is indeterminate at this stage on the opening GFA, and interest and finance charges have not been considered on the assumed value of assets. The same shall be considered at true-up stage if full details are made available.

The Commission has considered a closing normative loan of Rs. 256.67 Cr for FY 2013-14 in Tariff order dated April 15, 2014 and the same is considered as opening loan as on 1st April, 2014. The Commission has considered 70% of Rs. 119.82 Cr (Capitalization Rs. 182.63 Crore – ED funded schemes Rs. 62.81 Crore) net of schemes funded by ED Fund provisionally considered to be capitalized during FY 2014-15 to calculate the interest on normative loan amount. The Commission has considered the weighted average interest rate of interest of 7.99% for the existing loans as approved in the Tariff order for FY 2014-15 dated April 15, 2014 which is subject to actual true up. The Table below shows the computation of the normative interest for FY 2014-15 approved by the Commission:

Table 5.30: Interest on normative loan approved for FY 2014-15 (RE)

(Rs. Cr)

Sl. No.	Particulars (in Rs Cr)	FY 2014-15		
		Approved in T.O. dated April 15' 2014	Revised Estimates	Approved in Review
1	Opening Normative Loan	256.67	600.35	256.67
2	Add: Normative Loan during the year	89.25	83.87	83.87
3	Less: Normative Repayment equal to deprecation	25.67	55.59	25.87

Sl. No.	Particulars (in Rs Cr)	FY 2014-15		
		Approved in T.O. dated April 15' 2014	Revised Estimates	Approved in Review
4	Closing Normative Loan	320.25	628.63	314.67
5	Average Normative Loan	288.46	614.49	285.67
6	Rate of Interest	7.99%	11.75%	7.99%
7	Interest on Normative Loan	23.05	72.2	22.82

The Petitioner has proposed Rs. 4.97 Cr as LC charges as against the Rs. 1.30 Cr approved for FY 2014-15. However, the Petitioner has not submitted any rationale for such variation. Therefore the Commission has restricted the LC charges to the approved amount.

The Commission therefore approves the total interest and finance charges as Rs. (22.82+1.30) 24.12 Cr for the review of FY 2014-15.

5.13 *Interest on Working Capital*

Petitioner's Submission

As per Regulation 29 of JERC for the State of Goa and Union Territories (Terms and Conditions for Determination of Tariff) Regulations, 2009, Interest on Working Capital for a licensee shall be the sum of the following for one month

- i) Power Purchase Cost.
- ii) Employees Cost.
- iii) Administration & General Expenses &
- iv) Repair & Maintenance Expenses.

The Interest Rate is considered equivalent to the SBI PLR for the year FY 2013-14 which is at 14.45%. In line with the aforesaid regulation, the Interest on Working Capital works out to Rs. 6.44 Cr for FY 2013-14.

Commission's Analysis

As per Regulation 29 of JERC Tariff Regulations -

- 1) Subject to prudence check, the working capital for integrated utility shall be the sum of one month requirement for meeting:
 - a. Power purchase cost
 - b. Employees cost
 - c. Administration & general expenses
 - d. Repair & Maintenance expenses.
 - e. Sum of two-month requirement for meeting Fuel cost.
- 2) The rate of interest on working capital shall be equal to the short term Prime Lending Rate of State Bank of India on the 1st April of the relevant financial year. The interest on working capital shall be payable on normative basis notwithstanding that the generating company/licensee has not taken working capital loan from any outside agency or has exceeded the working capital loan amount worked out on the normative figures."

The Commission has considered the calculation of the different components of the working capital, based on the above-stipulated norms and as per the values approved in the respective sections of this Order. In accordance with Section 47(4) of the Electricity Act 2003, the distribution licensee is required to pay interest on security deposit collected from the consumers. If this security deposit is invested in the form of interest earning fixed deposits or other similar instruments, the interest earned from such investment could be utilized to pay the interest to the consumers under section 47(4) of the Electricity Act 2003. However, it is noted that the Petitioner has not invested any of the security deposit held and the said amount is available to the Petitioner. Accordingly, the Commission has allowed the interest payable to the consumer as expense in this Order. The Commission has considered the security deposit available with the Petitioner as a source to meet working capital requirements and has deducted this amount from the working capital requirement considered for interest for review of FY 2014-15.

Table 5.31: Interest on working capital approved by the Commission for FY 2014-15

Particulars (In Rs Cr)	FY 2014-15		
	Approved by the Commission in Tariff order dated April 15, 2014	Revised Estimates	Approved
Power Purchase Cost for one month	77.83	93.6	77.83
Employee Cost for one month	12.7	19.25	12.7
A&G Expenses for one month	0.8	0.83	0.79
R&M Expenses for one month	1.73	3.69	1.73
Total Working Capital for one month	93.06	117.38	93.05
Closing Security Deposit (amount already with ED Goa)	73.73	80.88	80.88
Total Working Capital considered for one month	19.32	36.5	12.17
SBI PLR Rate	14.75%	14.75%	14.75%
Interest on Working Capital	2.85	5.38	1.80

The Commission therefore approves the interest on working capital as Rs. 1.80 Cr for the review of FY 2014-15.

5.14 Interest on Security Deposit

Petitioner's Submission

The Regulation 25 of JERC (for the State of Goa and Union Territories (Terms and Conditions for Determination of Tariff) Regulations, 2009 provides for Interest on Security Deposit, if any, made by the consumer with the licensee. The provision of interest on security deposits is to be made at the bank rate. The prevailing Bank rate is considered at 9.00% as notified by the Reserve Bank of India vide circular dated 28th January, 2014.

In view of the above, Interest on Security Deposit is calculated at Rs. 8.16 Crore.

Commission's Analysis

As per Section 47(4) of the Electricity Act, 2003 and as specified in Regulation 25, of JERC Tariff Regulations 2009, the distribution licenses shall pay interest on security deposit collected from the consumers, equivalent to the bank rate or more as may be specified by the Commission.

The Commission for the review of FY 2014-15 has considered the interest payable on the average security deposit available in the previous year i.e. FY 2013-14. The Commission has considered the closing security deposit held at Rs.73.73 Crore for FY 2013-14 in the Tariff Order dated April 15, 2014 as the opening CSD for FY 2014-15. The Commission has considered the security deposit available in cash only. The Commission has therefore considered the following computation for interest on consumer security deposit for FY 2014-15.

Table 5.32: Interest on Security Deposit approved for FY 2014-15(RE)

Particulars (In Rs Cr)	FY 2014-15		
	Approved T.O. dated April 15, 2014	Revised Estimates by the Petitioner	Approved in Review
Opening Security Deposit	73.73	80.88	73.73
Add: Deposits during the Year	15.96	10.90	15.96
Less: Deposits refunded	2.86	1.07	2.86
Closing Security Deposit	86.83	90.71	86.83
Average Security Deposit	80.28	-	80.28
Bank Rate	8.50%	9.00%	8.50%
Interest on Security Deposit	5.89	8.16	6.82

5.15 Return on capital base/Net fixed assets

Petitioner's Submission

The proviso of Regulation 23(2) and Regulation 24 of Tariff Regulations 2009 provides for entitlement for Returns on Capital Base/Net Fixed Assets by utility/licensee. Thus, in line with the regulation and the methodology adopted by the Hon'ble Commission in its previous order, ED – Goa has calculated the return on capital base at 3%.

Commission's Analysis

The ED Goa is an integrated utility in its present form as defined in Regulation 2(9) of the JERC Tariff Regulations and it has not been restructured and corporatized till date. Therefore is entitled to return on capital base under the provisions of Regulation 23 of JERC (Terms and Conditions for Determination of Tariff) Regulations, 2009. The basic requirement for consideration of either return on capital base or return on equity is the audited Annual Accounts and assets & depreciation registers. The ED-Goa has not been maintaining adequate information. The same has also been discussed in treatment of this component in the previous chapter.

As discussed in the section on 'GFA and Depreciation', the Commission has allowed additional capitalization in FY 2014-15. The Commission has considered closing GFA at Rs. 398.74 Crore for FY 2013-14 in Tariff Order dated April 15, 2014 which is considered as opening GFA as on 1st April, 2014. The Commission has accordingly considered Rs. 398.74 Cr as the gross block at the beginning of FY 2014-15 and accumulated depreciation of Rs. 28.12 Cr, resulting in the net fixed assets of Rs. 370.61 Cr at the beginning of FY 2014-15. The Commission, therefore, approves the return on capital base @ 3% on the net fixed assets at the beginning of FY 2014-15. The table below shows the computation of the return on capital base as approved by the Commission.

Table 5.33: Return on Capital base approved for FY 2014-15(RE)

(Rs. Cr)

Sl. No.	Particulars (In Rs Cr)	FY 2014-15		
		Approved by the Commission in T.O. dated April 15, 2014	Revised Estimates	Approved in Review
1	Gross block at beginning of the year	398.74	961.5	398.74
2	Less accumulated depreciation	28.12	263.36	28.12
3	Net fixed assets at beginning of the year	370.61	698.14	370.61
4	Reasonable return @3% of NFA	11.12	20.94	11.12

5.16 *Non-Tariff Income***Petitioner's Submission**

Non-Tariff Income comprises of proceeds from sale of dead stock, waste paper, Receipt from State Electrical Inspectorate & other miscellaneous receipts. The Non-Tariff Income for the year FY 2014-15 comes to Rs. 6.74 Crore which is in line with the Non-Tariff Income approved by the Commission of Rs. 23.22 Crore.

Commission's Analysis

The Commission had approved the Non-Tariff income for the FY 2014-15 at Rs. 23.22 Cr in its order for FY 2014-15. The Petitioner has submitted the revised estimates at Rs. 6.74 Cr. Therefore; the Commission approves the Non-Tariff Income of Rs. 6.74 Cr for the Review of FY 2014-15.

5.17 *Aggregate Revenue Requirement (ARR) for FY 2014-15***Commission's Analysis**

The Commission has considered and approved the ARR for the review of FY 2014-15 based on the items of expenditure and revenue discussed in the preceding sections and the same has been summarized in the table below.

Table 5.34: Aggregate Revenue Requirement (ARR) approved for FY 2014-15(RE)

(Rs. Cr)

Sl. No.	Particulars	FY 2014-15		
		Approved in the T.O. dated April 15' 2014	Revised Estimates submitted by the Petitioner	Approved in Review
1	Cost of Power Purchase	933.95	1123.24	1093.62
2	Employee Costs	152.42	231	152.42
3	R&M Expenses	20.73	44.33	20.73
4	Administration & General Expenses	9.6	9.46	9.46
5	Depreciation	24.42	51.91	25.87
6	Interest and Finance Charges	24.35	77.39	24.12
7	Interest on Working Capital	2.85	5.38	1.80
8	Interest on Security Deposit	5.89	8.16	6.82
9	Return on NFA	11.12	20.94	11.12
10	Other expenses	0.75	0.51	0
11	Total Revenue Requirement	1186.08	1572.32	1345.96

Sl. No.	Particulars	FY 2014-15		
		Approved in the T.O. dated April 15' 2014	Revised Estimates submitted by the Petitioner	Approved in Review
12	Less : Non-Tariff Income	23.22	6.74	6.74
13	Less : Revenue from sale of Power- UI Pool	0	0	0
14	Add : Provision for RPO Obligation for FY 2014-15	0	0	20.70
15	Less : Revenue from sale / /Banking of Power	0	0	0
16	Aggregate Revenue Requirement	1162.86	1565.58	1359.92

The Commission therefore approves the Aggregate Revenue Requirement at Rs. 1359.92 Crore for the Review of FY 2014-15.

5.18 Revenue at Existing Tariff for FY 2014-15

Petitioner's Submission

The provisional actual revenue from sale of power including FPPCA charges for H1 of FY 2014-15 is **Rs. 539.84 Crore.**

The estimated revenue from sale of power for H2 of FY 2014-15 is Rs. 550.87 Crore. The overall revenue from sale of power for FY 2014-15 computes to Rs. 1090.71 Crore and the Commission is requested to approve the same.

Commission's Analysis

The Commission has considered the actuals for the period April 2014 to September 2014 submitted by the Petitioner. The Commission has also approved the Category wise sales for the second half of FY 2014-15 as elaborated in Para 5.3.3 of this Order. Accordingly, the Commission has considered the revenue from the existing tariff for FY 2014-15 as shown in the table below:

Table 5.35: Revenue at existing tariff approved for FY 2014-15 (RE)

(Rs. Cr)

Sl. No.	Category of Consumer	FY 2014-15 - H1		FY 2014-15 - H2			FY 2014-15	
		Sales (MU)	Revenue (Rs. Cr)	Average Cost (Rs/kWH) for H2	Sales (MU)	Revenue (Rs. Cr)	Sales (MU)	Revenue (Rs. Cr)
A	Low Tension Supply	574	150.66		692	182.86	1266	333.52
1(a)	Tariff LTD/Domestic and Non-Commercial	339	62.01	1.924	389	74.79	728	136.80
	First 60 Units							
	61 to 250 Units							
	251 to 500 Units							
	Above 500 Units							
1(b)	Tariff LTD/Low income group	1	0.52	0.475	1	0.05	2	0.57
1(c)	Tariff LTD/Domestic Mixed	3	1.18	3.000	4	1.20	7	2.38

Sl. No.	Category of Consumer	FY 2014-15 - H1		FY 2014-15 - H2			FY 2014-15	
		Sales (MU)	Revenue (Rs. Cr)	Average Cost (Rs/kWH) for H2	Sales (MU)	Revenue (Rs. Cr)	Sales (MU)	Revenue (Rs. Cr)
	First 400 Units							
	Above 400 Units							
2	Tariff- LTC/ /Commercial	124	46.95	3.761	144	54.00	268	100.95
	First 100 Units							
	From 101 to 1000 Units							
	All Consumption above 1000 Units							
3(a)	Tariff-LTP/Motive Power	70	30.47	3.484	109	37.87	179	68.34
	Connected Load upto 50 HP							
	Connected Load above 50 HP							
3(b)	Tariff-LTP/ Ice Manufacturing	3	1.23	3.833	5	1.72	8	2.95
	Connected Load upto 100 HP							
3(c)	Tariff-LTP/Mixed (Hotel Industries)	1	0.58	6.400	4	2.24	5	2.82
4	Tariff- LTAG/ /Agriculture	12	2.29	1.508	13	1.96	25	4.25
5	Tariff-LTAG/Public Lighting	18	4.3	3.671	22	8.13	40	12.43
6	Tariff-LT PWW/Public Water Works	3	1.13	2.967	3	0.89	6	2.02
B	High Tension Supply	877	349.77		933	372.89	1810	722.66
7	Tariff HT-Mixed	65	27.93	4.486	69	30.75	134	58.68
8(a)	Tariff HTI/Industrial	284	115.81	4.199	323	135.49	607	251.30
8(b)	Tariff HTI/Hotel Industries	66	25.96	4.042	71	28.52	137	54.48
8(c)	Tariff HTI/Ice Manufacturing	1	0.18	2.000	1	0.20	2	0.38
9	HT Industrial (Ferro Metallurgical/Steel Melting/Power Intensive/Steel Rolling	281	95.27	3.616	284	102.69	565	197.96
	First 300 Units/kVA							
	Next 200 Units/kVA							
	Above 500 Units/kVA							
10	Tariff- HTAG/ /Agriculture	2	0.52	2.300	4	0.92	6	1.44
11	EHTI/Industrial	87	36.38	4.318	88	38.10	175	74.48
12	HT PW/Public	68	26.14	3.886	69	26.81	137	52.95

Sl. No.	Category of Consumer	FY 2014-15 - H1		FY 2014-15 - H2			FY 2014-15	
		Sales (MU)	Revenue (Rs. Cr)	Average Cost (Rs/kWH) for H2	Sales (MU)	Revenue (Rs. Cr)	Sales (MU)	Revenue (Rs. Cr)
	Water Supply and sewage							
13	HT MES/Defence Establishments	13	4.97	3.664	14	5.13	27	10.10
14	HT Industrial (Steel Rolling)	0	12.57		0		0	12.57
	First 200 Units/kVA							
	Next 100 Units/kVA							
	Above 300 Units/kVA							
15	Tariff HT Industries (IT High Tech)	10	4.04	3.800	11	4.28	21	8.32
16	Tariff HT Industries (Ice)	0	0		0		0	0.00
C	Temporary Supply	19	6.11		19	14.64	38	20.75
16	Tariff – LT/Temporary	19	6.02	7.705	19	14.64	38	20.66
17	Tariff- HT/Temporary	0	0		0		0	0.00
18	Hoarding/Sign Board	0	0.1		0	0.00	0	0.09
Total Energy Sales & Revenue		1470	506.54		1644	570.38	3114	1076.92

The Commission accordingly approves the revenue from existing tariff at **Rs. 1076.92 Crore**

For the Review of FY 2014-15, the Petitioner has considered the revenue from FPPCA at Rs. 33.29 Crore, for H1 of FY 2014-15. For H2 the FPPCA revenue is not considered. The Commission considers the FPPCA revenue for H2 of 2014-15 also at the rate per unit as for H1 which works out to Rs. 37.23 Crore.

Therefore, the Commission approves the Revenue from sale of Power including FPPCA charge at Rs. 1147.44 Crore (Rs. 1076.92 Crore+ Rs. 33.29 Crore FPPCA for H1 + Rs. 37.23 Crore FPPCA for H2).

5.19 Revenue Gap for FY 2014-15

Commission's Analysis

The revenue gap worked out for the Review of FY 2014-15 is Rs. 212.48 Crore based on the Aggregate Revenue Requirement of Rs. 1359.92 Crore and the revenue from existing tariff of Rs. 1147.44 Crore including FPPCA.

The Petitioner has submitted that Rs. 59.04 Crore budgetary support is committed by the Government of Goa. This is retained and the balance revenue gap is carried forward to the next year for appropriate treatment. The Petitioner in this regard has also submitted the letter from the Government of Goa wherein the Finance (Budget) Department, Government of Goa in their letter dated February 3rd, 2014 intimated that it has been decided to provide adequate budgetary support to meet the deficit has may be approved by the Commission during the process of finalization of the ARR and Tariff

Petition for the FY 2014-15 and corresponding letter is attached as Annexure V. In view of the budgetary support for FY 2013-14 from the Government of Goa, there is no net revenue gap for FY 2014-15 to be carried forward for FY 2015-16

Table: 5.36 Revenue Gap approved for FY 2014-15 (RE)

(Rs. Crore)

Particulars	FY 2014-15 (RE)		
	Approved in T. O. dated April 15' 2014	Revised Estimates submitted by the Petitioner	Approved in Review
Aggregate Revenue Requirement	1162.86	1565.58	1359.92
Revenue from existing tariff including FPPCA	1025.66	1090.71	1147.44
Gap/(Surplus)	137.20	474.87	212.48
Less: Revenue from revised tariff	78.16		
Budgetary support from Government of Goa	59.04	59.04	212.48
Balance Revenue Gap	0.00	415.83	0.00

6. Aggregate Revenue Requirement (ARR) for FY 2015-16

6.1 Background

The ARR Petition for the MYT Period FY 2015-16 to FY 2017-18 has been filed by ED-Goa before the Commission on January 14th, 2015 (received by the Commission on 201.01.2015) as per Regulation 4.2 of JERC MYT Regulations, 2014, to estimate the Revenue Requirement for FY 2015-16 to FY 2017-18 on the basis of actual figures for FY 2013-14, the reviewed estimates for FY 2014-15 and forecasted figures for the period FY 2015-16 to FY 2017-18.

As discussed in para 3.3, the Commission has taken a decision to determine the ARR and Tariff for FY 2015-16 only, instead of MYT period of FY 2015-16 to FY 2017-18 considering various provisions of the JERC Tariff Regulations. Accordingly, the figures projected for FY 2015-16 are only considered in this chapter for analysing and approving.

The Joint Electricity Regulatory Commission (for the State of Goa and UTs) has notified the Joint Electricity Regulatory Commission for the State of Goa and Union Territories (Terms and Conditions for determination of Tariff) Regulations, 2009. As per the same, the Commission shall determine the Aggregate Revenue Requirement and tariff for the distribution business of electricity.

The Commission has taken into consideration the following for determination of ARR and tariff for FY 2015-16.

- i) Approved ARR for the FY 2014-15 by the Commission vide its order dated April 15, 2014.
- ii) Actual Performance in FY 2013-14.
- iii) Estimates submitted by the Petitioner for FY 2014-15.
- iv) Review for FY 2014-15 approved by the Commission.

6.2 Analysis of Aggregate Revenue Requirement for FY 2015-16

The determination of Aggregate Revenue Requirement requires assessment of quantum of energy sales, loss as well as various cost elements like power purchase cost, O&M expenses, interest cost, depreciation etc. Revised estimates/pre-actuals submitted by the Petitioner as regards to various components of ARR of previous year, the Commission's Analysis thereon and decision in respect of items given below is discussed in the following paras:

- Assessment of Energy Requirement
 - i) Sales Projections
 - ii) Loss Trajectory
 - iii) Energy Balance
 - iv) Power Purchase Sources
- Assessment of the Aggregate Revenue Requirement
 - i) Power Purchase Costs & Transmission Charges;
 - ii) Operation and Maintenance Expenses;
 - Employee Expenses
 - Administration & General expenses
 - Repairs & Maintenance Expenses
 - i) Capital Expenditure and Asset Capitalization
 - ii) Gross Fixed Assets;
 - iii) Depreciation;
 - iv) Interest on Long Term Loans;
 - v) Interest on Working Capital & Security Deposits;
 - vi) Return on Capital Base/Net Fixed Assets;
 - vii) Provision for Bad and Doubtful Debts
 - viii) Other expenses.

As per Regulation No. 13 of JERC Tariff Regulations,

“

- 1) The Aggregate Revenue Requirement of the generating company or the licensee shall comprise of the following:
 - i. Fuel Cost for own generation, if applicable.
 - ii. Cost of Power Purchase, if any
 - iii. Operation and Maintenance Expenses,
 - iv. Depreciation, including Advance Against Depreciation,
 - v. Interest and Cost of Finance,
 - vi. Return on Equity,
 - vii. Income Tax,
 - viii. Provision for Bad & Doubtful Debts,
 - ix. Other Expenses.
- 2) The data should be provided for three years
 - i. Audited figures for the previous year; Information for the previous year shall be based on the audited accounts; in the absence thereof, the audited accounts for the immediately preceding year shall be filed along with the un-audited accounts for the previous year.
 - ii. Estimated figures for the current financial year should be based on actual figures for the first six months and the estimated figures for the second six-months of the year. The estimated figures for the second half year of the current financial year should be based on the actual audited figures for the second half

of the previous year with adjustments that reflect known and measurable changes expected to occur between them. These adjustments must be specifically documented and justified.

- iii. Forecasted figures for the ensuing year should be based on the current year figures with adjustments that reflect known and measurable changes expected to occur between them. These adjustments must be specifically documented and justified.
- 3) The Aggregate Revenue Requirement of the generating company or the licensee shall be worked out by adjusting the following in the revenue requirement computed under Clause (1) above:
 - i. Necessary adjustments under Regulation 9 'Review and Truing Up'.
 - ii. Income from surcharge and additional surcharge from Open Access Consumers, if any;
 - iii. Transmission and/or Wheeling Charges recovered from the Open Access Customers, if any;
 - iv. Authorized portion of Income/revenue from Other Business engaged in by the licensee for optimum utilization of assets, if any, in accordance."

The Commission has considered the submissions of the Petitioner in the ARR and Tariff Petition, for analysing the ARR Items.

6.3 Consumers, connected Load and Energy Sale

6.3.1 Number of Consumers

Petitioner' Submission

The Petitioner has adopted compounded annual growth rate (CAGR) of past years of each consumer category as per the provisional figures till FY 2013-14, revised projection figures of FY 2014-15 and has forecasted the number of consumers for the control period FY 2015-16.

The following table summarizes the number of consumers projected for FY 2015-16.

Table 6.1: Projected Number of Consumers for FY 2015-16

Sl. No	Consumer Category	Projection for Number of Consumers (Nos.)
		FY 2015-16
1(a)	Tariff LTD/Domestic & Non-Comm.	488,471
1(b)	Tariff LTD/Low Income Group	11,547
1(c)	Tariff LTD/Domestic Mixed	1,405
2	Tariff-LTC/Commercial	90,863
3(a)	Tariff-LTP/Motive Power	7,051
3(b)	Tariff-LTP/ Ice Manufacturing	69
3(c)	Tariff-LTP/Mixed(Hotel Industries)	155
4	Tariff-LTAG/Agriculture	11,145
5	Tariff-LTPL/Public Li thing	2,740
6	Tariff-LT PWW/Public Water Works	744
	Total LT Category	614,190

Sl. No	Consumer Category	Projection for Number of Consumers (Nos.)
		FY 2015-16
7	Tariff HT-Mixed	168
8(a)	Tariff HTI/Industrial	400
8(b)	Tariff HTI/Hotel Industries	111
8(c)	Tariff HTI/Ice Manufacturing	2
9	H.T. Industrial(Ferro Metallurgical /Steel Melting/ Power Intensive)	37
10	Tariff-HTAG/Agriculture	41
11	EHTI/Industrial	5
12	H.T.PW/Public Water Supply & Sewage	35
13	H.T.MES/Defense Establishments	12
14	H.T. Industrial(Steel Rolling)	-
15	Tariff HT-Industries (IT High Tech).	12
	Total HT Category	824
C	Temporary Supply	5,033
16	Tariff-LT/Temporary	4,929
17	Tariff-HT/Temporary	-
	Total No. of Consumers	620,047

Commission's Analysis

Number of Consumers

The past trends of the number of consumers from FY 2009-10 to FY 2013-14 as per the available data have been analyzed. The Commission has approved the CAGR on the approved values of FY 2014-15 to project the number of consumers for FY 2015-16. The Commission has considered growth rates, projected by the Petitioner for different categories as reasonable and approved the number of consumers as given in the table below.

Table 6.2: Number of consumers approved by the Commission for FY 2015-16 (Nos.)

Sl. No.	Consumer Category	Approved FY 2014-15 (RE)	Growth rate assumed	Approved Number of Consumers
				FY 2015-16
A	Low Tension Supply			
1(a)	Tariff LTD/Domestic and Non-Commercial	478,893	2%	488,471
1(b)	Tariff LTD/Low income group	11,547	0%	11,547
1(c)	Tariff LTD/Domestic Mixed	1,405	0%	1,405
2	Tariff-LTC/Commercial	89,081	2%	90,863
3(a)	Tariff-LTP/Motive Power	6,981	1%	7,051
3(b)	Tariff-LTP/ Ice Manufacturing	66	5%	69
3(c)	Tariff-LTP/Mixed (Hotel Industries)	148	5%	155
4	Tariff-LTAG/Agriculture	11,145	0%	11,145
5	Tariff-LTAG/Public Lighting	2,740	0%	2,740
6	Tariff-LT PWW/Public Water Works	744	0%	744
B	High Tension Supply			
7	Tariff HT-Mixed	168	0%	168

Sl. No.	Consumer Category	Approved FY 2014-15 (RE)	Growth rate assumed	Approved Number of Consumers
				FY 2015-16
8(a)	Tariff HTI/Industrial	396	1%	400
8(b)	Tariff HTI/Hotel Industries	110	1%	111
8(c)	Tariff HTI/Ice Manufacturing	2	0%	2
9	HT Industrial (Ferro Metallurgical/Steel Melting/Power Intensive/Steel Rolling)	37	0%	37
10	Tariff-HTAG/Agriculture	41	0%	41
11	EHTI/Industrial	5	0%	5
12	HT PW/Public Water Supply and sewage	35	2%	36
13	HT MES/Defense Establishments	12	0%	12
14	HT Industrial (Steel Rolling)		0%	0
15	Tariff HT Industries (IT High Tech)	12	5%	13
C	Temporary Supply			
16	Tariff –LT/Temporary	4,929	0%	4,929
17	Tariff-HT /Temporary	0	0%	0
18	Hoarding/Sign Board	104	0%	104
	Total Number of Consumers	608,601		620,047

6.3.2 Connected Load

Petitioner' Submission

The Petitioner has observed that there has not been a significant increase in connected load/contract demand of consumers during the last five years, therefore nil growth has been considered for all categories except LT Domestic and LT Commercial categories. For LT Domestic and LT Commercial categories a conservative growth rate of 0.5% is adopted.

The following table summarises the connected load projected for FY 2015-16.

Table 6.3: Connected Load for FY 2015-16 submitted by Petitioner

Sl. No.	Consumer Categories	Connected Load for Consumers (KW/KVA/HP)
		FY 2015-16
1(a)	Tariff LTD/Domestic & Non-Comm.	1,642,607
1(b)	Tariff LTD/Low Income Group	2,046
1(c)	Tariff LTD/Domestic Mixed	3,191
2	Tariff-LTC/Commercial	278,652
3(a)	Tariff-LTP/Motive Power	165,019
3(b)	Tariff-LTP/ Ice Manufacturing	3,072
3(c)	Tariff-LTP/Mixed(Hotel Industries)	4,569
4	Tariff-LTAG/Agriculture	61,326
5	Tariff-LTPL/Public Lighting	9,598
6	Tariff-LT PWW/Public Water Works	5,600
	Total LT Category	2,175,680
7	Tariff HT-Mixed	74,767

Sl. No.	Consumer Categories	Connected Load for Consumers (KW/KVA/HP)
		FY 2015-16
8(a)	Tariff HTI/Industrial	240,374
8(b)	Tariff HTI/Hotel Industries	41,559
8(c)	Tariff HTI/Ice Manufacturing	364
9	H.T. Industrial(Ferro Metallurgical /Steel Melting/ Power Intensive)	111,840
10	Tariff-HTAG/Agriculture	8,258
11	EHTI/Industrial	51,833
12	H.T.PW/Public Water Supply & Sewage	30,796
13	H.T.MES/Defense Establishments	7,080
14	H.T. Industrial(Steel Rolling)	-
15	Tariff HT-Industries (IT High Tech).	6,658
	Total HT Category	573,529
C	Temporary Supply	8,025
16	Tariff-LT/Temporary	7,502
17	Tariff-HT/Temporary	-
18	Hoarding / Sign Board	523

Commission's Analysis

The Commission considered the connected load as projected by the Petitioner for FY 2015-16 for different categories.

Accordingly, the connected load considered for different categories for FY 2015-16, as given in the table below.

Table 6.4: Approved Connected Load (KW/KVA/HP) for FY 2015-16

Sl. No	Consumer Category	Approved FY 2014-15 (RE)	Growth Assumed	Projections FY 2015-16
1(a)	Tariff LTD/Domestic and Non-Commercial	1,634,435	0.50%	1,642,607
1(b)	Tariff LTD/Low income group	2,046	0.00%	2,046
1(c)	Tariff LTD/Domestic Mixed	3,191	0.00%	3,191
2	Tariff-LTC/Commercial	277,265	0.50%	278,652
3 (a)	Tariff-LTP/Motive Power	165,019	0.00%	165,019
3 (b)	Tariff-LTP/ Ice Manufacturing	3,072	0.00%	3,072
3(c)	Tariff-LTP/Mixed (Hotel Industries)	4,569	0.00%	4,569
4	Tariff-LTAG/Agriculture	61,326	0.00%	61,326
5	Tariff-LTAG/Public Lighting	9,598	0.00%	9,598
6	Tariff-LT PWW/Public Water Works	5,600	0.00%	5,600
	Total LT Category	2,166,121		2,175,680

Sl. No	Consumer Category	Approved FY 2014-15 (RE)	Growth Assumed	Projections FY 2015-16
7	Tariff HT-Mixed	74,767	0.00%	74,767
8(a)	Tariff HTI/Industrial	240,374	0.00%	240,374
8(b)	Tariff HTI/Hotel Industries	41,559	0.00%	41,559
8(c)	Tariff HTI/Ice Manufacturing	364	0.00%	364
9	HT Industrial (Ferro Metallurgical/Steel Melting/Power Intensive/Steel Rolling)	111,840	0.00%	111,840
10	Tariff-HTAG/Agriculture	8,258	0.00%	8,258
11	EHTI/Industrial	51,833	0.00%	51,833
12	HT PW/Public Water Supply and sewage	30,796	0.00%	30,796
13	HT MES/Defense Establishments	7,080	0.00%	7,080
14	HT Industrial (Steel Rolling)	-	0.00%	-
15	Tariff HT Industries (IT High Tech)	6,658	0.00%	6,658
	Total HT Category	573,529		573,529
C	Temporary Supply	8,025		8,025
16	Tariff-LT/Temporary	7,502	0.00%	7,502
17	Tariff-HT/Temporary	-	0.00%	-
18	Hoarding / Sign Board	523	0.00%	523

Note: All LT connections except LTP/Motive Power, LTAG/Agriculture, LT Ice manufacturing and LT Public water Work in KW

LTP/Motive Power, LTAG/Agriculture Connections LT Ice Manufacturing and LT Public water Work in HP

All HT connections in KVA.

6.3.3 Energy Sales

Petitioner' Submission

For sales forecasting, the Petitioner has adopted the methodology mentioned by the Commission and has taken the CAGR of past years of sales of each consumer category as per the provisional sales till FY 2013-14, revised projection figures of FY2014-15 and has forecast the sales for FY 2015-16.

The audited figures are available till FY 2009-10 and preparation of audited books for FY 2010-11 onwards is in progress. During preparation of the projections, the Petitioner has taken a conservative approach for CAGR as the past unaudited data does not provide a clear picture i.e. we have calculated the three year, four year and five year CAGR's and considered the optimum growth for the respective category.

The provisional actual sales from FY 2009-10, CAGR for different categories up to FY 2013-14 and the growth rate assumed for projections for FY 2015-16 is as given in the Table below.

Table 6.5: Projections of Sales (MUs) for FY 2015-16

Sl. No.	Consumer Category	Provisional Actual					Growth Calculation				Revised Projection	Projections	
		FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	3 Year	4 Year	5 Year	Growth %	FY 14-15	Growth %	FY 15-16
							CAGR	CAGR	CAGR	Assumed			
1(a)	Tariff LTD/Domestic and Non-Commercial	655	695	696	831	790	7%	4%	5%	5%	722	5%	758
1(b)	Tariff LTD/Low income group	6	6	4	9	7	36%	7%	6%	0%	7	0%	7
1(c)	Tariff LTD/Domestic Mixed	1	1	2	4	7	110%	65%	48%	0%	7	0%	8
2	Tariff-LTC/Commercial	282	305	305	267	287	-3%	-2%	0%	5%	264	5%	277
3(a)	Tariff-LTP/Motive Power	72	83	92	76	97	3%	5%	8%	5%	149	5%	157
3(b)	Tariff-LTP/Ice Manufacturing	-	-	-	7	10	0%	0%	0%	0%	7	0%	7
3(c)	Tariff-LTP/Mixed (Hotel Industries)	5	5	6	5	9	25%	22%	20%	10%	3	10%	3
4	Tariff-LTAG/Agriculture	11	12	10	18	21	43%	19%	17%	0%	25	0%	25
5	Tariff-LTAG/Public Lighting	31	33	31	16	29	-4%	-4%	-2%	0%	39	0%	39
6	Tariff-LT PWW/Public Water Works	2	2	2	2	7	81%	55%	41%	5%	6	5%	6
	Total LT Category	1,064	1,142	1,148	1,237	1,264					1,230		1,288
7	Tariff HT-Mixed	104	110	145	211	113	-12%	1%	2%	2%	130	2%	133
8(a)	Tariff HTI/Industrial	439	474	577	560	550	-2%	5%	6%	5%	604	5%	675
8(b)	Tariff HTI/Hotel Industries	-	-	-	52	120	0%	0%	0%	5%	133	5%	140
8(c)	Tariff HTI/Ice Manufacturing	-	-	1	0	1	0%	0%	0%	0%	1	0%	1
9	HT Industrial (Ferro Metallurgical/Steel Melting/Power Intensive/Steel Rolling)	505	546	480	554	528	5%	-1%	1%	2%	566	2%	577
10	Tariff-HTAG/Agriculture	5	5	4	8	6	21%	3%	5%	0%	5	0%	5
11	EHTI/Industrial	134	144	169	113	143	-8%	0%	2%	0%	175	0%	175
12	HT PW/Public Water Supply & sewage	114	120	117	113	140	9%	5%	5%	5%	137	5%	144
13	HT MES/Defense Establishments	27	29	40	35	26	-19%	-3%	-1%	0%	27	0%	27
14	HT Industrial (Steel Rolling)	131	141	47	57	54	7%	-27%	-20%	1%	-	1%	-
15	Tariff HT Industries (IT High Tech)	1	1	5	7	18	88%	155%	106%	0%	21	0%	21
	Total HT Category	1,459	1,571	1,585	1,711	1,699					1,800		1,898
C	Temporary Supply	13	15	14	15	15					39		39
16	Tariff-LT/Temporary	13	15	14	14	15	3%	-1%	3%	0%	38	0%	38
17	Tariff-HT/Temporary	-	-	-	1	0	0%	0%	0%	0%	-		-
18	Hoarding/Sign Board	-	-	-	-	-	0%	0%	0%	0%	0.3		0.3
	Total Sales	2,537	2,728	2,746	2,962	2,977					3,068		3,225

The Petitioner has submitted as follows for assumed growth rates as mentioned above for different categories.

i. Domestic Consumers:

LT Domestic consumers contribute to approx. 27% of the total sales. Based on the past years sales data, 5% growth is assumed for projections.

Table 6.6: LTD Domestic Sales (MUs)

Consumer Category	Provisional Actual					Growth Calculation			
	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	3 Year CAGR	4 Year CAGR	5 Year CAGR	Growth Assumed
Tariff LTD/Domestic & Non-Commercial	655	695	696	831	790	7%	4%	5%	5%

ii. LTD Low Income Group and LT Domestic Mixed:

The sales in the LIG category is not expected to grow. Hence, Nil growth assumed.

Table 6.7: LTD LIG and LT Domestic Mixed Sales (MUs)

Consumer Category	Provisional Actual					Growth Calculation			
	FY09-10	FY10-11	FY11-12	FY12-13	FY13-14	3 Year CAGR	4 Year CAGR	5 Year CAGR	Growth Assumed
Tariff LTD/ Low Income Group	6	6	4	9	7	36%	7%	6%	0%
Tariff LTD/ Domestic Mixed	1	1	2	4	7	110%	65%	48%	0%

The sales for LT Domestic Mixed category show a sudden increase in FY 2013-14. It is assumed that earlier most of the consumers of LT Domestic Mixed were being billed under LT Domestic, which from FY 2013-14 onwards is being correctly billed under LT Domestic Mixed. Once the audited data is available, a clear picture will be available. Hence Nil growth is assumed for Domestic Mixed.

iii. LTC-Commercial Sales:

Commercial Consumers constitute 10% of total sales of ED Goa. Though the growth trend is negative, 5% growth is assumed in commercial activities considering various developments and increasing tourism activities in the State.

Table 6.8: LTC/Commercial Consumers Sales (MUs)

Consumer Category	Provisional Actual					Growth Calculation			
	FY09-10	FY10-11	FY11-12	FY12-13	FY13-14	3 Year CAGR	4 Year CAGR	5 Year CAGR	Growth Assumed
Tariff- LTC/ Commercial	282	305	305	267	287	-3%	-2%	0%	5%

iv. LT Motive Power Sales:

LT Motive Power sales constitute 3% of total sales. The past data shows a mixed trend in the sales. Further with consumers of Reliance area shifting to ED-Goa's network, 5% growth is assumed for projections.

Table 6.9: LT Motive Power Consumers Sales (MUs)

Consumer Category	Provisional Actual					Growth Calculation			
	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	3 Year	4 Year	5 Year	Growth
						CAGR	CAGR	CAGR	Assumed
Tariff-LTP/ /Motive Power	72	83	92	76	97	3%	5%	8%	5%

v. LTP Ice Manufacturing

For LT Ice Manufacturing, Nil growth is assumed as it is a recently created category.

Table 6.10: LTP Ice Manufacturing Consumers Sales (MUs)

Consumer Category	Provisional Actual					Growth Calculation			
	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	3 Year	4 Year	5 Year	Growth
						CAGR	CAGR	CAGR	Assumed
Tariff-LTP/ Ice Manufacturing	-	-	-	7	10	0%	0%	0%	0%

vi. LTP Mixed (Hotel Industries)

For LTP Mixed Hotel Industries sales, growth of 10% is assumed considering huge tourism activities in the state.

Table 6.11: LTP Mixed Hotel Industries Sales (MUs)

Consumer Category	Provisional Actual					Growth Calculation			
	FY 2009-10	FY 2010-11	FY 2011-12	FY 2012-13	FY 2013-14	3 Year	4 Year	5 Year	Growth
						CAGR	CAGR	CAGR	Assumed
Tariff-LTP/ /Mixed (Hotel Industries)	5	5	6	5	9	25%	22%	20%	10%

vii. LTAG/Agriculture, LTPL/Public Lighting & LT PWW/Public Water Works Sales:

LT-AG, LT Public Lighting sales show a mixed trend of CAGR based on past data. Considering minor categories and their contribution to total sales, Nil growth is assumed.

For LT PWW the sales are linked to increase in no. of consumers, hence a growth rate of 5% is assumed.

Table 6.12: LT Agriculture, Public Lighting & Public Water Works Sales

(MU)

Consumer Category	Provisional Actual					Growth Calculation			
	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	3 Year CAGR	4 Year CAGR	5 Year CAGR	Growth Assumed
Tariff- LTAG/ /Agriculture	11	12	10	18	21	43%	19%	17%	0%
Tariff-LTPL/ /Public Lighting	31	33	31	16	29	-4%	-4%	-2%	0%
Tariff-LT PWW/ /Public Water Works	2	2	2	2	7	81%	55%	41%	5%

viii. HT Mixed

The HT Mixed category sales shows a mixed trend of data over last five years. Growth of 2% is assumed for projection purposes.

Table 6.13: HT Mixed sales (MUs)

Consumer Category	Provisional Actual					Growth Calculation			
	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	3 Year CAGR	4 Year CAGR	5 Year CAGR	Growth Assumed
Tariff HT-Mixed	104	110	145	211	113	-12%	1%	2%	2%

ix. HTI/ Industrial

A mixed trend of CAGR is observed with last five year data. 5% growth rate has been considered for the projections as Reliance area consumers have also shifted to ED-Goa's network.

Table 6.14: HTI/Industrial sales (MUs)

Consumer Category	Provisional Actual					Growth Calculation			
	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	3 Year CAGR	4 Year CAGR	5 Year CAGR	Growth Assumed
Tariff HTI/Industrial	439	474	577	560	550	-2%	5%	6%	5%

x. HTI- Hotel Industries and HTI/Ice Manufacturing Sales

For HT Ice Manufacturing, Nil growth has been assumed. The HTI Hotel Industries consumption is increasing due to tourism activities and hence 5% growth is assumed.

Table 6.15: HT Hotel Industries and Ice Manufacturing Consumers (MUs)

Consumer Category	Provisional Actual					Growth Calculation			
	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	3 Year CAGR	4 Year CAGR	5 Year CAGR	Growth Assumed
Tariff HTI/ /Hotel Industries	-	-	-	52	120	0%	0%	0%	5%
Tariff HTI/Ice Manufacturing	-	-	1	0	1	0%	0%	0%	0%

xi. HT Industrial (Ferro Metallurgical/Steel melting/Power Intensive) Consumers:

HT Industrial (Ferro Metallurgical/Steel Melting/Power Intensive), sales show a mixed trend. Growth of 2% is assumed considering growth in recent years.

Table 6.16: HTI (Ferro Metallurgical/Steel melting/Power Intensive) Sales (MUs)

Consumer Category	Provisional Actual					Growth Calculation			
	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	3 Year	4 Year	5 Year	Growth
						CAGR	CAGR	CAGR	Assumed
H.T. Industrial (Ferro Metallurgical/Steel Melting/Power Intensive)	505	546	480	554	528	5%	-1%	1%	2%

xii. HTAG/Agriculture

HTAG/Agriculture consumers are very few and haven't increased in last five years. Hence Nil growth has been assumed.

Table 6.17: HTAG/Agriculture Sales (MUs)

Consumer Category	Provisional Actual					Growth Calculation			
	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	3 Year	4 Year	5 Year	Growth
						CAGR	CAGR	CAGR	Assumed
Tariff-HTAG/Agriculture	5	5	4	8	6	21%	3%	5%	0%

xiii. EHTI/Industrial

Nil growth is considered for EHTI/Industrial category as there is mixed trend.

Table 6.18: EHTI/Industrial Sales (MUs)

Consumer Category	Provisional Actual					Growth Calculation			
	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	3 Year	4 Year	5 Year	Growth
						CAGR	CAGR	CAGR	Assumed
EHTI/Industrial	134	144	169	113	143	-8%	0%	2%	0%

xiv. HT PW/Public Water Supply and Sewage

For HTPW/Public Water Supply and Sewage, a constant growth rate has been observed based on the past five year data. Hence, CAGR of 5% is assumed.

Table 6.19: HT PW/Public Water Supply and Sewage Sales (MUs)

Consumer Category	Provisional Actual					Growth Calculation			
	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	3 Year	4 Year	5 Year	Growth
						CAGR	CAGR	CAGR	Assumed
H.T. PW/Public Water Supply & Sewage	114	120	117	113	140	9%	5%	5%	5%

xv. HT MES/Defence Establishments

For HTMES/Defence Establishment, there has been a mixed trend of decrease in sales over past three year. Hence, Nil growth has been assumed.

Table 6.20: HTMES/Defense Sales (MUs)

Consumer Category	Provisional Actual					Growth Calculation			
	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	3 Year	4 Year	5 Year	Growth
						CAGR	CAGR	CAGR	Assumed
H.T. MES/Defence Establishments	27	29	40	35	26	-19%	-3%	-1%	0%

xvi. HT Industrial (Steel Rolling)

For HT Industrial Steel Rolling which is now merged with Ferro, 1% growth has been assumed observing positive CAGR in last 3 years.

Table 6.21: HT Industrial (Steel Rolling) Sales (MUs)

Consumer Category	Provisional Actual					Growth Calculation			
	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	3 Year	4 Year	5 Year	Growth
						CAGR	CAGR	CAGR	Assumed
H.T. Industrial (Steel Rolling)	131	141	47	57	54	7%	-27%	-20%	1%

xvii. HT-Industries (IT High Tech.)

For HT Industries (IT High Tech), an abnormal growth is observed and hence Nil growth is considered.

Table 6.22: HT Industries (High tech) Sales (MUs)

Consumer Category	Provisional Actual					Growth Calculation			
	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	3 Year	4 Year	5 Year	Growth
						CAGR	CAGR	CAGR	Assumed
Tariff HT- Industries (IT High Tech).	1	1	5	7	18	88%	155%	106%	0%

xviii. Temporary Consumers, LT Hoarding/Sign Board

For Temporary Consumers a mixed trend is observed in past sales data. Also, growth of temporary activities cannot be predicted. Hence, to be on the conservative side, 0% CAGR has been assumed.

LT Hoarding/Sign board has been introduced from FY 14-15 and since past data is not available, Nil growth is assumed.

Table 6.23: Temporary Consumers, Hoarding /Sign Board (MUs)

Consumer Category	Provisional Actual					Growth Calculation			
	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	3 Year CAGR	4 Year CAGR	5 Year CAGR	Growth Assumed
Temporary Supply	13	15	14	15	15				
Tariff-LT/Temporary	13	15	14	14	15	3%	-1%	3%	0%
Tariff-HT/Temporary	-	-	-	1	0	0%	0%	0%	0%
Hoarding / Sign Board	-	-	-	-	-	0%	0%	0%	0%

Table 6.24: Summary of the category wise Energy sales projected for FY 2015-16 (MUs) by the petitioner

Sl. No.	Consumer Category	Revised Projections	Projections	
		FY 2014-15	Growth %	FY 2015-16
1(a)	Tariff LTD/Domestic and Non-Commercial	722	5%	758
1(b)	Tariff LTD/Low income group	7	0%	7
1(c)	Tariff LTD/Domestic Mixed	7	0%	8
2	Tariff-LTC/Commercial	264	5%	277
3(a)	Tariff-LTP/Motive Power	149	5%	157
3(b)	Tariff-LTP/ Ice Manufacturing	7	0%	7
3(c)	Tariff-LTP/Mixed (Hotel Industries)	3	10%	3
4	Tariff-LTAG/Agriculture	25	0%	25
5	Tariff-LTAG/Public Lighting	39	0%	39
6	Tariff-LT PWW/Public Water Works	6	5%	6
	Total LT Category	1,230		1,288
7	Tariff HT-Mixed	130	2%	133
8(a)	Tariff HTI/Industrial	604	5%	675
8(b)	Tariff HTI/Hotel Industries	133	5%	140
8(c)	Tariff HTI/Ice Manufacturing	1	0%	1
9	HT Industrial (Ferro Metallurgical/Steel Melting/Power Intensive/Steel Rolling)	566	2%	577
10	Tariff-HTAG/Agriculture	5	0%	5
11	EHTI/Industrial	175	0%	175
12	HT PW/Public Water Supply and sewage	137	5%	144
13	HT MES/Defence Establishments	27	0%	27
14	HT Industrial (Steel Rolling)	-	1%	-
15	Tariff HT Industries (IT High Tech)	21	0%	21
	Total HT Category	1,800		1,898
C	Temporary Supply	39		39
16	Tariff-LT/Temporary	38	0%	38
17	Tariff-HT/Temporary	-		-
18	Hoarding / Sign Board	0.3		0.3
	Total Sales	3,068		3,225

Commission's Analysis

The Commission, while approving the revised estimates for FY 2014-15 looked at the increase in the period October to March FY 2013-14 , as compared to April to September 2013, applying the increase on the actual sales submitted by the Petitioner for the period April to September 2014.

The growth rates adopted for FY 2015-16 are considered reasonable except for LTD-LIG Category.

Consumers under LTD-LIG (Low Income Group) category group are allowed a connected load of two numbers of 40 Watts bulbs only as per approved Tariff Schedule. Considering this as the basis, consumption of each consumer under the LIG category works out to 175.2 kWh per consumer per year taking average usage of 6 hours per day. The number of consumers are 11547 as shown in Table No. 6.2. Accordingly, the Commission has considered the sales for FY 2015-16 for LTD-LIG at 2.02 MU.

Accordingly, the category wise Energy sales approved for FY 2015-16 are as given in the table below.

Table 6.25: Approved Category wise Energy sales for FY 2015-16

Sl. No	Consumer Category	Approved for FY 2014-15 (RE)	Approved	
			Growth %	FY 2015-16
1(a)	Tariff LTD/Domestic and Non-Commercial	728	5%	764
1(b)	Tariff LTD/Low income group	2	0%	2
1(c)	Tariff LTD/Domestic Mixed	7	0%	8
2	Tariff-LTC/Commercial	268	5%	281
3(a)	Tariff-LTP/Motive Power	179	5%	188
3(b)	Tariff-LTP/ Ice Manufacturing	8	0%	8
3(c)	Tariff-LTP/Mixed (Hotel Industries)	5	10%	5
4	Tariff-LTAG/Agriculture	25	0%	25
5	Tariff-LTAG/Public Lighting	40	0%	40
6	Tariff-LT PWW/Public Water Works	6	5%	6
	Total LT Category	1,266		1,327
7	Tariff HT-Mixed	134	2%	136
8(a)	Tariff HTI/Industrial	607	5%	637
8(b)	Tariff HTI/Hotel Industries	137	5%	143
8(c)	Tariff HTI/Ice Manufacturing	2	0%	2
9	HT Industrial (Ferro Metallurgical/Steel Melting/Power Intensive/Steel Rolling)	565	2%	576
10	Tariff-HTAG/Agriculture	6	0%	6
11	EHTI/Industrial	175	0%	175
12	HT PW/Public Water Supply and sewage	137	5%	144
13	HT MES/Defense Establishments	27	0%	27
14	HT Industrial (Steel Rolling)	0	1%	0
15	Tariff HT Industries (IT High Tech)	21	0%	21
	Total HT Category	1,810		1,868
C	Temporary Supply	38		38
16	Tariff-LT/Temporary	38	0%	38
17	Tariff-HT/Temporary	0		-
18	Hoarding / Sign Board	0		0.3
	Total Sales	3,114		3,233

6.4 Intra-State Transmission & Distribution Loss

Petitioner's Submission

The proposed transmission and distribution losses by ED-Goa for FY 2014-15(RE) and FY 2015-16 are mentioned below.

Table 6.26: T&D Loss Trajectory for FY 2015-16

Particulars	FY 2014-15	FY 2015-16
T&D Loss (%)	14.00%	13.75%

ED-Goa submits that the meter reading, billing and collection process is being streamlined and is going through a transformation phase. In the past it was maintained by several different agencies separately in each division and each agency had its separate logic for bill calculation and bill generation.

However, now a common agency is taking over all the billing and collection data for HT and LT consumers and a common process will be followed for all the division to avoid ambiguity in the process and data. While this streamlining process is in progress, a lot of errors in the legacy data have been discovered and the error rectification process is going on.

It is therefore submitted that due to the above reasons, the actual T&D Loss may be different than what is being projected in this Petition. The Commission may allow the ED-Goa to revise the T&D loss figures after authenticated data starts flowing from the new billing system and getting energy audit results after installation of necessary meters at feeder and DT level.

Commission's Analysis

The Commission observed that the proposed T&D loss by ED-Goa for FY 2015-16 is at higher level than that of FY 2014-15 (11.50%). The Petitioner has not provided adequate basis for consideration of such increased loss levels. The Petitioner has envisaged high levels of capital investment which include system improvement schemes.

The Commission therefore does not find any merit in the plea of the Petitioner for approving higher level of losses projected.

The Commission approves the loss levels as given in the Table below.

Table 6.27: Intra-state- Transmission Loss & Distribution
Loss Reduction (%) approved for FY 2015-16

Particulars	2014-15 (RE)	FY 2015-16
T&D Loss (%)	11.50%	11.50%

6.5 Inter-State Transmission Loss

Petitioner's Submission

Transmission Loss: PGCIL losses are on account of two regions – Western Region (WR) and Southern Region (SR). Therefore while computing the PGCIL losses, the losses at **3.8%** and **12%** are considered for WR and SR respectively.

Commission's Analysis

The Commission has considered the actual percentage of inter-state transmission losses for Western Region and Southern region recorded in the first half of FY 2014-15 as detailed in the Para 5.5 of this order. **The Commission would like to mention here that the actual interstate losses as recorded by the WRLDC and SRLDC would be considered at the time of True up. The Commission has considered losses for purchases from Western region at 3.71% according to average 52 week losses up to August 10, 2014 (from WRPC website) and Southern region losses at 12.00%.**

Since the Commission has considered the merit-order dispatch principles (discussed in detail in the section of Power Purchase Cost) the inter-state transmission losses in terms of the quantum of units have only been allowed to the extent required to meet the energy requirement in the State. The inter-state transmission losses approved are 185 MU for FY 2015-16. The transmission charges have been allowed, as they are fixed in nature and the utility would have to pay for them irrespective of the energy procured from the generator. The same is discussed in the following section of power purchase for FY 2015-16.

6.6 Power Purchase Quantum and Cost for FY 2015-16

Petitioner's Submission

The Petitioner has submitted that the power purchase quantum and cost are considered as per the provisions of Regulation 18 in JERC (Multi Year Distribution Tariff) Regulations, 2014.

ED-Goa has provided the detailed description of projection of power purchase quantum for FY 2015-16. The following table shows the power purchase quantum projected by ED-Goa for FY 2015-16.

Table 6.28: Projected Power Purchase Quantum for FY 2015-16 (MUs)

Particulars	FY 2015-16
<i>Central Sector Power Stations</i>	
NTPC	3,200.30
<i>KSTPS</i>	<i>1,472.90</i>
<i>KSTPS-III</i>	<i>35.27</i>
<i>VSTPS – I</i>	<i>264.26</i>
<i>VSTPS – II</i>	<i>95.73</i>
<i>VSTPS –III</i>	<i>81.34</i>
<i>VSTPS-IV</i>	<i>77.91</i>
<i>KGPP</i>	<i>56.9</i>
<i>GGPP</i>	<i>61.17</i>
<i>SIPAT- I</i>	<i>162.93</i>
<i>RSTPS</i>	<i>643.44</i>
<i>SIPAT- II</i>	<i>77.54</i>
<i>Mouda</i>	<i>84.87</i>

Particulars	FY 2015-16
<i>Barh-II</i>	86.04
NPCIL	248.4
<i>KAPS Unit 1 and 2</i>	111.75
<i>TAPS Unit 3 and 4</i>	77.79
<i>KAPS Unit 3 and 4</i>	58.85
Solar RPO	27
<i>NVVN Solar</i>	10
<i>Solar Energy Corp. of India</i>	17
Short Term Power (tied-up)	62.26
Trader/Open Market Short Term	14.89
Within State Generations	-
CO- GENERATION	185.94
<i>Goa Energy Private Limited</i>	124.27
<i>Goa Sponge & Power Limited</i>	6.68
<i>Sesa Goa Limited</i>	55
Total Energy Availability	3,738.79

Power Purchase Cost: The ED-Goa has considered the assumptions as discussed in the upcoming sections for projecting power purchase cost for FY 2015-16.

Fixed Cost and Variable Cost for Central Generating Stations: The ED-Goa has considered fixed cost of the Central Generating Stations based on the petition filed by each of the respective stations for their control period of FY 2014-15 to FY 2018-19 before the Hon'ble CERC. The ED-Goa has applied the allocation percentage on the total fixed cost filed by each of the generating stations to arrive at fixed cost of each station pertaining to the ED-Goa.

The ED-Goa has considered variable charge per unit for each of the Central Generating Stations based on the actual power purchase bills received for the month of October 2014 and November 2014. The following table shows the variable and fixed cost considered for FY 2015-16.

Table 6.29: Projected Fixed Cost and Variable Cost for CGS for FY 2015-16

Name of Plant	FY 2015-16	
	Fixed Cost for station (Rs. Cr)	Variable Cost (Rs./unit)
KSTPS	902.25	0.92
KSTPS-III	541.04	0.91
VSTPS – I	663.21	1.78
VSTPS – II	464.42	1.68
VSTPS –III	761.44	1.68
VSTPS-IV	1,134.85	1.68
KGPP	440.8	2.97
GGPP	527.13	2.85

Name of Plant	FY 2015-16	
	Fixed Cost for station (Rs. Cr)	Variable Cost (Rs./unit)
SIPAT- I	1,908.24	1.37
FSTPS	-	-
RSTPS	947.29	2.4
SIPAT- II	912	1.34
Mouda	1,325.23	3.89
Barh	1,467.12	3.85
KAPS	-	2.38
TAPS	-	2.88

Solar RPO Status:

As regards fulfillment of Solar RPO is concerned, PPA has been executed by the Government with M/s NVVNL, New Delhi on 22th August, 2014 for supply of solar power for a period of 5 years @ Rs 7.99 per unit exclusive of transmission charges, 6 MW i.e. approximately 10 MU. The supply has started w. e. f. 28-08-014.

Further M/s Solar Energy Corporation of India, New Delhi vide letter no. SECI/JNNSM/P-2/B-1/Power Sale/851 dated 11th July, 2014, has allocated 10 MW of Solar power to the State and also submitted Power Sale Agreement (PSA). The PSA to be executed with SECI has been submitted to the Government for approval for execution. The SECI will be supplying solar power of 10 MW @ Rs. 5.50 per unit exclusive of transmission charges for a period of 25 years. It is anticipated that PSA will be executed shortly after negotiations on legal clauses and shall fulfill the Solar RPO from 2015-16 till next 25 years.

To meet Solar RPO, the ED-Goa will also purchase RECs during FY 2015-16 to ensure there is no carry forward of Solar RPO in second control period.

Non-Solar RPO Status:

Tender was invited by the Electricity Department – Goa for fulfillment of Non- Solar RPO of FY 2014-15 and further 4 years period. There were three offers against the tender. The lowest offer was @ Rs 6.10 per unit at Goa Periphery but the commencement of supply was from 1st April, 2015. Another offer was @ Rs. 7.25 at Goa periphery for commencement of power from current year itself.

As the rates offered were substantially higher, the ED-Goa decided to purchase RECs to meet Non Solar RPO for FY 2014-15 and subsequent financial years. The ED-Goa has planned to purchase RECs equivalent to Rs. 85 MUs in FY 2014-15. Similarly it would also purchase RECs during FY 2015-16 control period to ensure that there is no carry forward of Non-Solar RPO.

The following table shows the Renewable Purchase Obligation for Solar and Non-Solar for ED-Goa and the corresponding REC Certificates to be purchased for the respective years. The RPO obligation not met in any of the years is transferred to the ensuing year.

Table 6.30: Details of RPO Obligation for ED-Goa from FY 2013-14 to FY 2015-16

Sl. No.	Description	FY 2013-14	FY 2014-15	FY 2015-16
1	Sale within State	2,977.29	3,067.92	3,224.70
2	RPO Obligation in (%)			
	Solar	0.40%	0.60%	0.85%
	Non Solar	2.60%	2.70%	2.70%
3	RPO Obligation in (in MUs)			
	Solar	11.91	18.41	27.41
	Non Solar	77.41	82.83	87.07
4	Shortfall of RPO Obligation in Past Years (MUs)			
	Solar	19.78	-	-
	Non Solar	-	-	-
5	Total RPO Obligation including Past Years (MUs)			
	Solar	31.69	18.41	27.41
	Non Solar	77.41	82.83	87.07
6	RPO Compliance during the year (in MUs)			
	Solar	-	4.75	27
	Non Solar	-	-	-
7	Shortfall in RPO Compliance (in MUs)			
	Solar	31.69	13.66	0.41
	Non Solar	77.41	82.83	87.07
8	REC Certificate Purchase (in MUs)			
	Solar	-		10
	Non Solar	-	85	120
9	Cumulative Shortfall in RPO Compliance (in MUs)			
	Solar	31.69	45.35	35.76
	Non Solar	77.41	75.24	42.31
10	REC Certificate Price (Rs./Unit)			
	Solar	-	9.3	5.8
	Non Solar	-	1.5	1.5
11	REC Certificate Cost (Rs. Crores)			
	Solar	-	-	5.8
	Non Solar	-	12.75	18
	Total	-	12.75	23.8

Price for Solar and Non Solar is taken as per CERC REC Order dated 13th June, 2011 (142/2011) for FY 2014-15 and as per CERC REC Order dated 30th December, 2014 (SM/016/2014) for FY 2015-16.

Power Purchase cost for Traders: The power purchase cost of traders has been projected based on the price per unit quoted under Letter of Intent (LOI) issued by ED-Goa for respective months of purchase.

Co-generation sources: The power purchase cost of Co-generation sources has been projected based on the actual price per unit being paid during the first half of FY 2014-15. The variable cost per unit for Co-Generation Stations (existing as well as upcoming) has been taken at Rs. 2.40/unit in line with the PPA signed with the Generators.

PGCIL Transmission Charges: The transmission charges have been projected based on the charges mentioned in Regional Transmission Account vide WRPC circular No. WRPC/Comml-I/RTA/2014/11.0/10968 dated 4th December, 2014 for injection and drawl of western region power and Regional Transmission Account vide letter No. SRPC/SE-1/5(RTA)/2014/ dated 3rd December 2014 for injection and drawal of Southern region power as base figures over which escalation is assumed for FY 2015-16 and onwards.

The transmission charges for FY 2015-16 onwards are computed based on the said RTA statement wherein rates and capacity in MW are considered and withdrawal charges have been arrived for ED-Goa. ED-Goa has worked out transmission charges for the last three years and calculated 3 year CAGR and year on year CAGR for reference. The working of transmission charges and considered escalation is shown in the table below.

Table 6.31: Escalation of Transmission Charges

Regions	November --2011	November- -2012	November- -2013	November- -2014	3 Year CAGR %	Increase during Nov -2014 over Nov-2013 (%)	Annual Escalation Assumed (%)
Withdrawal Charges							
<i>Southern Region</i>	80,000	74,520	101,818	88,067	4.90%	(-) 13.50%	5.00%
<i>Western Region</i>	70,000	79,968	109,391	118,067	29.90%	7.90%	10.00%
Injection Charges							
Ramagund am - SR	80,000	59,520	71,818	88,067	4.90%	22.60%	5.00%
CGS - WR							
KSTPS	85,000	109,968	94,391	103,067	10.10%	9.20%	10.00%
KORBA - III	85,000	109,968	94,391	103,067	10.10%	9.20%	10.00%
VSTPS - I	100,000	109,968	109,391	103,067	1.50%	-5.80%	5.00%
VSTPS - II	100,000	109,968	109,391	103,067	1.50%	-5.80%	5.00%
VSTPS -III	100,000	109,968	109,391	103,067	1.50%	-5.80%	5.00%
VSTPS -IV	-	-	109,391	103,067	0.00%	-5.80%	5.00%
KGPP	70,000	79,968	109,391	118,067	29.90%	7.90%	10.00%
GGPP	70,000	79,968	109,391	118,067	29.90%	7.90%	10.00%
SIPAT-2	100,000	109,968	94,391	103,067	1.50%	9.20%	5.00%
KAPS 1 & 2	70,000	79,968	109,391	118,067	29.90%	7.90%	10.00%
KAPS 3 & 4	-	-	-	118,067	0.00%	0.00%	10.00%
TAPS 3 & 4	100,000	79,968	79,391	88,067	-6.20%	10.90%	5.00%
SIPAT-1	100,000	109,968	94,391	103,067	1.50%	9.20%	5.00%
Mauda	-	-	79,391	88,067	0.00%	10.90%	10.00%
Barh-II	-	-	-	-	0.00%	0.00%	0.00%
RGPP	-	109,968	109,391	118,067	0.00%	7.90%	5.00%

The following table shows the transmission charges computed for withdrawal of power for FY 2015-16 based on the above escalation considered.

Table 6.32: Transmission Charges for Withdrawal of Power

Financial Year	Southern Region				Western Region				SR + WR
	Annual Escala- tion %	Rates Rs/Mw/ Month	Monthly Quantum (MW)	Total Charges (Rs. Crs)	Annual Escala- tion %	Rates Rs/Mw/ Month	Monthly Quantum (MW)	Total Char- ges (Rs. Crs)	Total Charges (Rs. Crs)
FY 2014-15	0.00%	88,067	93.28	9.86	0.00%	118,067	388.01	54.97	64.83
FY 2015-16	5.00%	92,470	93.28	10.35	10.00%	129,874	388.01	60.47	70.82

Furthermore the ED-Goa has considered POC charges as per November 2014 RTA bill for each of the generators and therefore derived monthly charges for each of the generators based on MW capacity. The ED-Goa has then considered annual escalation on the cost arrived through this mechanism. The following table shows the transmission charges arrived for FY 2015-16 on the generator end.

Table 6.33: Transmission Charges for Generators

Stations	Rates Rs/Mw/ Month	Monthly Quantum (MW)	Monthly Charges (Rs. Cr.)	Annual Inflation %	FY 2015-16 (Rs. Cr.)
RSTPS – SR	88,067.00	100	0.88	0.05	11.1
CGS – WR	-	-	-	-	-
KSTPS	103,067.00	211.93	2.18	0.1	28.83
KORBA – III	103,067.00	5.41	0.06	0.1	0.74
VSTPS – I	103,067.00	36.73	0.38	0.05	4.77
VSTPS – II	103,067.00	13.3	0.14	0.05	1.73
VSTPS – III	103,067.00	11.3	0.12	0.05	1.47
VSTPS – IV	103,067.00	13.02	0.13	0.05	1.69
KGPP	118,067.00	12.38	0.15	0.1	1.93
GGPP	118,067.00	12.64	0.15	0.1	1.97
SIPAT-2	103,067.00	11.24	0.12	0.05	1.46
KAPS 1 & 2	118,067.00	15.47	0.18	0.1	2.41
KAPS 3 & 4	118,067.00	12.6	0.15	0.1	1.96
TAPS 3 & 4	118,067.00	15.68	0.19	0.05	2.33
SIPAT-1	103,067.00	23.61	0.24	0.05	3.07
Mauda	88,067.00	13.02	0.11	0.1	1.51
Barh – II	-	13.2	-	-	-
Total - (Rs.)	-	521.52	5.17	-	66.97

Considering the above escalations for drawal and injection charges, the ED-Goa has projected the transmission charges for FY 2015-16.

The transmission charges for KPTCL are projected considering 7.5 paise per unit on power from Ramagundam plant. Other fees and charges of SLDC, SCADA and reactive charges and MSETCL charges are considered twice of cost estimated in H2 of FY 2014-15.

The following table shows the summary of transmission charges which are arrived based on the transmission charges for generation and withdrawal of power for FY 2015-16.

Table 6.34: Summary of Transmission Charges projected for FY 2015-16

Particulars	FY 15-16 (Rs. Cr.)
Part - A Transmission Charges	70.82
Part - B Transmission Charges	66.97
KPTCL Wheeling Charges	11.48
Fees and charges of SLDC - WR	0.52
Fees and charges of SLDC - SR	0.46
SCADA & Reactive charges	0.76
MSETCL (RGPPL)	2.66
Total Transmission Charges	153.67

The following table shows the quantum and power purchase cost from different sources for FY 2015-16.

Table 6.35: Power Purchase Quantum and Cost projected for FY 2015-16

Particulars	FY 2015-16	
	Units (MU's)	Rs. Crore
<i>Central Sector Power Stations</i>		
NTPC	3,200.30	816.45
KSTPS	1,472.90	231.57
KSTPS-III	35.27	8.49
VSTPS – I	264.26	67.46
VSTPS – II	95.73	22.49
VSTPS –III	81.34	22.1
VSTPS-IV	77.91	26.9
KGPP	56.9	25.9
GGPP	61.17	28.23
SIPAT- I	162.93	43.45
RSTPS	643.44	220.65
SIPAT- II	77.54	20.23
Mouda	84.87	49.85
Barh-II	86.04	49.14
NPCIL	248.4	65.43
KAPS Unit 1 and 2	111.75	27.61
TAPS Unit 3 and 4	77.79	23.28

Particulars	FY 2015-16	
	Units (MU's)	Rs. Crore
KAPS Unit 3 and 4	58.85	14.54
Solar RPO	27	17.34
NVVN Solar	10	7.99
Solar Energy Corp. of India	17	9.35
Short Term Power (tied- up)	62.26	23.02
Trader/Open Market Short Term	14.89	5.51
Within State Generations		
CO- GENERATION	185.94	44.63
Goa Energy Private Limited	124.27	29.82
Goa Sponge & Power Limited	6.68	1.6
Sesa Goa Limited	55	13.2
PGCIL Transmi-ssion Charges	-	153.67
Total Power Purchase	3,738.79	1,144.05

The Commission is kindly requested to approve the total power purchase cost of for FY 2015-16 as stated in the table above. The details of the Power Purchase Expenses for FY 2015-16 are provided in Format 4 of Tariff Filing Formats.

Commission's Analysis

The following approach has been adopted by the Commission for approving the power procurement from NTPC stations, NPCIL stations and power from co-generation plants.

- Central Generating Stations – National Thermal Power Corporation and NPCIL

The Petitioner has firm allocation in the Central Sector Generating Stations of NTPC from the following stations.

- Korba Super Thermal Power Station Stage 1 ,2 and 3
- Vindhyachal Super Thermal Power Station Stage I, II,III and IV
- Kawas Gas Power Station
- Gandhar Gas Power Station
- Sipat Super Thermal Power Station Stage I & 2
- Ratnagiri Gas and Power Pvt Ltd.
- Ramagundam Super Thermal Power Station Stage 1 and 2
- Mauda Super Thermal Power Station.

The Commission while estimating the energy availability from the above stations has considered the following assumptions:

- *Allocation of Share:* The Commission has considered the firm allocation and allocation from the unallocated quota from the above stations except Ramagundam STPS as per the notification of the Western Region Power Committee vide letter No. RPC/Comml-I/6/Alloc/2014/10874 dated 03.12.2014. The allocation for Ramagundam STPS is considered as per the notification of the Southern Region power Committee.
- *Gross Energy Availability:* The Commission has estimated the gross energy availability from the existing NTPC stations based on the installed capacity and

the average Plant Load Factor for the available past three years (FY 2011-12 and FY 2012-13 and FY 2013-14). The net energy sent out has been considered after reducing the applicable auxiliary consumption as per the CERC Tariff Regulation, 2009.

- *Energy Available to the Petitioner:* The effective share from the stations is applied on the energy sent out to arrive at the energy available for the Petitioner from respective stations.

The Commission has considered the following assumptions to arrive at the Power purchase cost for FY 2015-16 from the NTPC stations:

- *Fixed Charges:* The fixed charges of the central generating stations are governed by the Tariff Order issued by CERC under the Tariff Regulations issued by CERC. The CERC has issued the Tariff Regulations for the period 2014-19 under which the tariff Orders for each station are yet to be issued by CERC. Therefore, the annual fixed charges are considered based on the formula specified for the stations in the CERC Tariff Regulations, 2009. The Annual Fixed Charges for each station have been taken as per the Tariff Orders for FY 2014-15 for the respective stations.
- *Variable Charges:* The Commission has considered the variable cost based on power purchase bills for October and November 2014 as projected by the Petitioner.
- *Merit Order Dispatch:* NTPC stations have been subjected to merit order dispatch and accordingly the power purchase quantum and variable cost are approved. However, the fixed charges are approved for all stations.

Accordingly, the Commission approves the following availability from NTPC stations based on the merit order dispatch principles as given in the Table below.

Table 6.36: Approved Power Purchase Quantum from NTPC stations under Merit Order Dispatch for FY 2015-16

Sl. No.	Source	Capacity (MW)	Availability/PLF (%)	Gross Generation (MU)	Auxiliary Consumption (%)	Net Generation (MU)	Firm allocation to ED-Goa (%)	Purchase (MU) FY 2015-16
A	Central Generating Stations							
I	NTPC STATIONS							
1	Korba STPS	2100.00	90.13%	16580	8.50%	15170.99	10.19%	1545.92
2	Korba STPS – III	500.00	85.00%	3723	9.00%	3387.93	1.29%	43.70
3	Vindhyachal STPS – I	1260.00	90.12%	9947	5.25%	9424.86	3.07%	289.34
4	Vindhyachal STPS – II	1000.00	90.12%	7895	5.25%	7480.05	1.48%	110.70
5	Vindhyachal STPS – III	1000.00	90.12%	7895	5.25%	7480.05	1.28%	95.74
6	Vindhyachal STPS–IV	1000.00	78.03%	6835	9.00%	6220.24	1.51%	93.93
7	Kawas GPS	656.20	56.23%	3232	3.00%	3135.31	1.89%	59.26
8	Gandhar GPS	657.39	59.21%	3410	3.00%	3307.46	1.93%	33.83
9	Sipat Stage I	1980.00	86.44%	14993	5.25%	14205.72	1.40%	198.88
10	Ramagundam STPS	2100.00	91.22%	16781	8.50%	15354.46	4.76%	640.87
11	Sipat Stage II	1000.00	86.44%	7572	5.25%	7174.61	1.22%	87.53
12	Mouda STPS	1000.00	85.00%	7446	9.00%	6775.86	1.17%	4.28
13	Barh-II	1320.00	85.00%	9829	9.00%	8944.14	1.00%	24.44
	Total	15573.59		116137.42		108061.67		3228.44

According to the approved energy procurement, the Commission has approved the following cost for the NTPC stations:

Table 6.37: Approved Power Purchase Cost for NTPC stations for FY 2015-16

Sl. No.	Source	Purchase (MU)	PGCIL Losses	Energy available at periphery	VC (Rs/ kWh)	Fixed charges (Rs Cr)	Total (Rs Cr)
A	Central Generating Stations	FY 2015-16		FY 2015-16			FY 2015-16
<i>I</i>	<i>NTPC STATIONS</i>						
1	Korba STPS	1545.92	3.71%	1488.57	0.9217	83.36	225.85
2	Korba STPS – III	43.70	3.71%	42.08	0.9091	5.97	9.94
3	Vindhyachal STPS - I	289.34	3.71%	278.61	1.7758	18.06	69.44
4	Vindhyachal STPS - II	110.70	3.71%	106.60	1.6826	6.72	25.35
5	Vindhyachal STPS - III	95.74	3.71%	92.19	1.6793	9.76	25.84
6	Vindhyachal STPS - IV	93.93	3.71%	90.44	1.6791	6.92	22.69
7	Kawas GPS	59.26	3.71%	57.06	2.9735	7.77	25.39
8	Gandhar GPS	33.83	3.71%	32.58	2.8459	10.02	19.65
9	Sipat Stage I	198.88	3.71%	191.50	1.3682	18.72	45.93
10	Ramagundam STPS	640.87	12.00%	563.97	2.4008	45.85	199.71
11	Sipat Stage II	87.53	3.71%	84.28	1.3379	10.61	22.32
12	Mouda STPS	4.28	3.71%	4.12	3.889	8.53	10.19
13	Barh-II	24.44	3.71%	23.53	3.8536	14.67	24.09
	Total	3228.44		3055.54		246.96	726.39

➤ **Central Generating Stations – Nuclear Power Corporation of India Limited**

The Petitioner has firm allocation in the Central Sector Generating Stations of NPCIL from the following stations.

- Kakrapara Atomic Power Station
- Tarapur Atomic Power Station

The Commission while estimating the energy availability from the above stations has considered the following assumption:

- *Allocation of Share:* The Commission has considered the firm allocation and allocation from the unallocated quota from the above stations as per the notification of the Western Region Power Committee vide letter No. RPC/Comml-I/6/Alloc/2014/10874 dated 03-12-2014.
- *Gross Energy Availability:* The Commission has estimated the gross energy availability from the existing NPCIL stations based on the installed capacity and the average Plant Load Factor for the past two years (FY 2011-12 and FY 2012-13) as recorded by CEA in its monthly generation reports. The net energy sent out is considered after reducing the auxiliary consumption.
- *Energy Available to the Petitioner:* The effective share from the stations is applied on the energy sent out to arrive at the energy available for the Petitioner from respective stations.

The Commission has considered the following assumptions to arrive at the single part tariff for the NPCIL stations during FY 2014-15:

- **Variable Charges:** The Commission has considered the average variable cost for the period based on power purchase bills for October and November 2014 as projected by the Petitioner.
- **Merit order Dispatch:** The Commission has considered the nuclear plants as must run and has not subjected them for merit order dispatch.

Accordingly, the Commission approves the following availability from NPCIL stations:

Table 6.38: Approved Power purchase quantum from NPCIL stations under merit order dispatch for FY 2015-16

Source	Capacity (MW)	Availability/ PLF (%)	Gross Generation (MU)	Auxiliary Consumption (%)	Net Generation (MU)	Firm allocation to ED-Goa (%)	Purchase (MU) FY 2015-16
NPCIL							
Kakrapar APS 1&2	440.00	86.52%	3335	10.00%	3001.34	3.64%	109.25
Kakrapar APS 3&4	1400.00	85.00%	10424	10.00%	9381.96	1.12%	105.08
Tarapur Unit 3&4	1080.00	93.32%	8829	10.00%	7945.94	1.33%	105.68
Total	2920.00		22588.05		20329.24		320.01

According to the approved energy the Commission has approved the following cost from the NPCIL stations:

Table 6.39: Approved Power Purchase Cost for NPCIL Stations for FY 2015-16

Source	Purchase (MU)	PGCIL Losses	Energy available at periphery	VC (Rs/kWh)	Fixed charges (Rs Cr)	Total (Rs Cr) FY 2015-16
NPCIL						
Kakrapar APS 1& 2	109.25	3.71%	105.20	2.3771	0.00	25.97
Kakrapar APS 3 & 4	105.08	3.71%	101.18	2.3771	0.00	24.98
Tarapur Unit 3 & 4	105.68	3.71%	101.76	2.8788	0.00	30.42
Total	320.01		308.14		0.00	81.37

➤ Co-Generation

The Petitioner has contracted Power from the following Co-Generation plants

- Goa Energy Private Limited
- Goa Sponge and power Limited
- Sesa Goa
- *Energy Availability:* The energy availability has been considered as per the Petitioner' submission.
- *Variable Charges:* The variable charges have been considered as per the PPA signed with the Generating stations at Rs. 2.40/kW
- *Merit Order Dispatch:* The Commission has considered these plants as must run stations and are not subjected to merit order dispatch.

Accordingly, the Commission has approved the following availability and cost for Co-Generation.

Table 6.40: Approved Power purchase quantum and Cost for Co-Generation for FY 2015-16

Source	Purchase (MU)	Energy available at periphery	VC (Rs/kWh)	Fixed charges (Rs Cr)	Total FY 2015-16 (Rs Cr)
<i>CO-Generation</i>					
Goa Energy private Limited	124.27	124.27	2.40	0.00	29.82
Goa Sponge & Power Limited	6.68	6.68	2.40	0.00	1.60
Sesa Goa Limited	55.00	55.00	2.40	0.00	13.20
Sub Total	185.95	185.95		0.00	44.63

➤ **Traders and Short term Power Purchaser**

➤ The power purchase from traders and short term power purchasers is considered as projected by the Petitioner as shown below subject to scrutiny at the time of True up, whether other cheaper sources were explored at the time of drawal.

Table 6.41: Approved Power purchase quantum and Cost from Traders and Short Term Power purchasers for FY 2015-16

Source	Purchase (MU)	Cost (Rs. Cr)
Solar RPO		
NVVN Solar	10.00	7.99
Solar Energy Corporation of India	17.00	9.35
Sub Total	27.00	17.34
Short term	62.26	23.02
Open market	14.89	5.51
Total	104.15	45.87

➤ **Renewable Energy Obligation**

As per JERC (Procurement of Renewable Energy) Regulations, 2010 clause 1 sub-clause (1).

"Each distribution licensee shall purchase electricity (in kWh) from renewable energy sources, at a defined minimum percentage of the total consumption of all the consumers in its area during a year."

The Petitioner has to purchase 3.90% of total energy purchase for sale to the consumers in its area as power purchase from renewable sources for FY 2014-15 including 0.60% for Solar and 3.30% for Non-Solar.

The Commission has amended the definition of Renewable Energy Sources under Regulation 2 (p) as follows:

Quote”

“Renewable Energy Sources” means Electricity generating sources recognized or approved by the Ministry of New and Renewable Energy and includes bundled power purchase (to the extent of Renewable Energy content in the bundled Power), power generated from co-generation based power plant wherein the fuel used is non-fossil fuel duly recognized as renewable sources by MNRE and certified by the State accredited agency.

“Unquote

The Commission has considered the above finalized regulations pending notification of the amendments. The power availed by the ED-Goa through the co-generation plants is fossil fuel based which cannot be considered under RE sources.

Therefore, the Commission has considered the RPO obligation through REC certificates at Rs. 1.50 and Rs. 5.80 per unit for non-solar and solar respectively. However, the Petitioner can explore alternatives for fulfillment of RPO that would be considered at the time of True up.

The RPO Obligation is approved, as given in the Table below.

Table 6.42: Details of RPO Obligation for ED-Goa approved for FY 2015-16

Sl. No.	Description	FY 2015-16
1	Sale within State (MU)	3,233
2	RPO Obligation in (%)	
	Solar	0.85%
	Non Solar	2.70%
3	RPO Obligation in (in MUs)	
	Solar	27.48
	Non Solar	87.29
4	Shortfall of RPO Obligation in Past Years (in MUs)	
	Solar	0
	Non Solar	0
5	Total RPO Obligation including Past Years (in MUs)	
	Solar	27.48
	Non Solar	87.29
6	RPO Compliance during the year (in MUs)	
	Solar	27
	Non Solar	0
7	Shortfall in RPO Compliance (in MUs)	
	Solar	0.48
	Non Solar	87.29
8	REC Certificate Purchase (in MUs)	
	Solar	0.48
	Non Solar	87.29
9	REC Certificate Price (Rs./Unit)	
	Solar	5.80
	Non Solar	1.50
10	REC Certificate Cost (Rs. Crores)	
	Solar	0.28
	Non Solar	13.09
	Total	13.37

➤ **Transmission Charges (PGCIL, NRLDC F&C and Reactive Energy Charges)**

The Commission approves the Transmission Charges for FY 2015-16 equal to the approved ones in the revised estimates for FY 2014-15. No escalation is considered. Any variations will be considered in the True up exercises for the respective year.

Power Purchase Cost

For determining the power purchase cost, merit order dispatch principles are applied as elaborated in the foregoing. The must-run stations have been assumed at the top of the merit order and variable cost incurred for meeting the energy requirement within the state has been calculated from these plants at the top of the merit order.

In accordance with the foregoing paragraphs, the Commission has approved the Power Purchase Cost at Rs. 1048.34 Cr. for FY 2015-16 as detailed in the table given below.

Table 6.43: Approved Power Purchase Cost for FY 2015-16

Sl. No.	Source	Purchase (MU)	PGCIL Losses (%)	PGCIL Losses (MU)	Energy available at periphery	VC (Rs/kWh)	Fixed Charges (Rs. Crore)	Total (Rs. Crore) FY 2015-16
A	Central Stations							
I	NTPC STATIONS							
1	Korba STPS	1545.92	3.71%	57.35	1488.57	0.9217	83.36	225.85
2	Korba STPS – III	43.70	3.71%	1.62	42.08	0.9091	5.97	9.94
3	Vindhyachal STPS – I	289.34	3.71%	10.73	278.61	1.7758	18.06	69.44
4	Vindhyachal STPS-II	110.70	3.71%	4.11	106.60	1.6826	6.72	25.35
5	Vindhyachal STPS-III	95.74	3.71%	3.55	92.19	1.6793	9.76	25.84
6	Vindhyachal STPS-IV	93.93	3.71%	3.48	90.44	1.6791	6.92	22.69
7	Kawas GPS	59.26	3.71%	2.20	57.06	2.9735	7.77	25.39
8	Gandhar GPS	33.83	3.71%	1.26	32.58	2.8459	10.02	19.65
9	Sipat Stage I	198.88	3.71%	7.38	191.50	1.3682	18.72	45.93
10	Ramagundam STPS	640.87	12.00%	76.90	563.97	2.4008	45.85	199.71
11	Sipat Stage II	87.53	3.71%	3.25	84.28	1.3379	10.61	22.32
12	Mouda STPS	4.28	3.71%	0.16	4.12	3.889	8.53	10.19
13	Barh-II	24.44	3.71%	0.91	23.53	3.8536	14.67	24.09
	Sub Total	3228.44		172.90	3055.54		246.96	726.39
II	RGPPPL							
	Sub Total							
III	NPCIL							
	Kakrapar APS 1& 2	109.25	3.71%	4.05	105.20	2.3771	0.00	25.97
	Kakrapar APS 3 & 4	105.08	3.71%	3.90	101.18	2.3771	0.00	24.98
	Tarapur Unit 3 & 4	105.68	3.71%	3.92	101.76	2.8788	0.00	30.42
	Sub Total	320.01		11.87	308.14			81.37
IV	Solar RPO							
	NVVN Solar	10.00			10.00	7.99	0.00	7.99
	Solar Energy corporation of India	17.00			17.00	5.50	0.00	9.35
	Sub Total	27.00			27.00	6.42	0.00	17.34
V	Short term Tied up	62.26			62.26	3.70	0.00	23.02

Sl. No.	Source	Purchase (MU)	PGCIL Losses (%)	PGCIL Losses (MU)	Energy available at periphery	VC (Rs/kWh)	Fixed Charges (Rs. Crore)	Total (Rs. Crore) FY 2015-16
VI	Traders/Open Market Short Term	14.89			14.89	3.70	0.00	5.51
	A - Total-Central Stations	3652.60			3467.82		246.96	853.63
B	Within State Generations							
I	CO-Generation							
	Goa Energy private Limited	124.27			124.27	2.40	0.00	29.82
	Goa Sponge & Power Limited	6.68			6.68	2.40	0.00	1.60
	Sesa Goa Limited	55.00			55.00	2.40	0.00	13.20
	Sub Total	185.95			185.95		0.00	44.63
C	IPP							
	Reliance Infra							
	Sub Total							
D	RPO Obligation							
	REC Certificates – Solar							0.28
	REC Certificates - Non-Solar							13.09
	Sub Total							13.37
E	Other Charges							
	PGCIL Transmission Charges, Wheeling, Open Access & Trading, Margin & Other Charges							136.70
F	Grand Total	3838.55		184.78	3653.77		246.96	1048.34

➤ **Energy Balance**

Petitioner's Submission

The Energy balance for FY 2015-16 is computed and presented in the table below:

Table 6.44: Energy Balance Submitted by the Petitioner for FY 2015-16

Sl. No.	Item	FY 2014-15 (RE)	FY 2015-16
1	Retails sales to Consumers	3,068	3,225
	Add: T&D Losses- %	14.00%	13.75%
	T&D Losses – MUs	499	514
2	Energy Requirement at Goa Periphery	3,567	3,739
3	Total Power Scheduled by ED-Goa		
	Scheduled Power from NTPC, RGPPL, NPCIL & RSTPS	3,324	3,647
	Add: Actuals of Over/Underdrawal, Traders and Sales to Exchange	100	0

Sl. No.	Item	FY 2014-15 (RE)	FY 2015-16
	Add: Power from Open Market during peak/ /(surplus Power diversion to exchange during off-peak)	199	77
	Total	3,622	3,724
4	Less: PGCIL Losses - %	5.43%	5.33%
	PGCIL Losses – Mus	197	198
5	Total Power Purchase within Goa State		
	Add: Co-Generation	163	186
	Add: Renewable Energy Sources		27
	Add: Independent Power Producers (IPP)	(21.00)	0
	Total	142	213
6	Energy Input at Periphery after PGCIL Losses & State Power Purchase	3,567	3,739

Commission's Analysis

Based on the Energy sales, T&D losses and PGCIL losses approved and considering the merit order dispatch, the approved Energy Balance for FY 2015-16 is shown in the Table below.

Table 6.44: Energy Balance approved for FY 2015-16

Sl. No.	Item	Units	FY 2014-15 (RE)	FY 2015-16
1	Retails sales to Consumers		3,114	3,233
	Add: T&D Losses	(%)	11.50%	11.50%
	T&D Losses	(MU)	407	420
2	Energy Requirement at Goa Periphery	(MU)	3,536	3,653
3	Total Power Scheduled by ED-Goa			
	Scheduled Power from NTPC, RGPPL, NPCIL & RSTPS	(MU)	3,337	3,548
	Total	(MU)	3,337	3,548
4	Less: PGCIL Losses	(%)	5.28%	5.21% *
	PGCIL Losses	(MU)	197	185
	Add: Actuals of Over/Under drawal, Traders and Sales to Exchange	(MU)	255	0
	Add: Power from Open Market during peak / (surplus Power diversion to exchange during off-peak)	(MU)	0	77
5	Total Power Purchase within Goa State			
	Add: Co-Generation	(MU)	163	186
	Add: Renewable Energy Sources	(MU)		27
	Add: Independent Power Producers (IPP)	(MU)	(21.40)	0
	Total	(MU)	141.79	213
6	Energy Input at Periphery after PGCIL Losses & State Power Purchase	(MU)	3,537	3,654

* % of PGCIL loss is derived (185 MU/3458 MU)

6.7 *Operation and Maintenance Expenses*

Operation & Maintenance expenses comprise of the following heads of expenditure viz.

- Employee Expenses
- Administration & General Expenses
- Repairs & Maintenance Expenses.

The Employee expenses, Administration and General expenses and Repairs & Maintenance expenses are now linked to certain parameters provided in the MYT Regulations 2014. The ED-Goa has proposed norms in the Business Plan in such a manner that the O&M expenses for future years shall not be less than that of actual of previous year expenses plus inflation.

The JERC (Multi Year Distribution Tariff) Regulations, 2014 notifies that the Commission shall stipulate a separate trajectory of norms for each of the component of O&M expenses viz., Employee cost, R&M expense and A&G expense.

6.7.1 *Operation & Maintenance Expenses*

Petitioner's submission:

The Petitioner has submitted that;

- (a) The Commission shall stipulate a separate trajectory of norms for each of the components of O&M expenses viz., Employee cost, R&M expense and A&G expense. Provided that such norms may be specified for a specific Distribution Licensee or a class of Distribution Licensees.
- (b) Norms shall be defined in terms of combination of number of personnel per 1000 consumers and number of personnel per substation along with annual expenses per personnel for Employee expenses; combination of A&G expense per personnel and A&G expense per 1000 consumers for A&G expenses and R&M expense as percentage of gross fixed assets for estimation of R&M expenses.
- (c) One-time expenses such as expense due to change in accounting policy, arrears paid due to pay commissions etc., shall be excluded from the norms in the trajectory.
- (d) The expenses beyond the control of the Distribution Licensee such as dearness allowance, terminal benefits in Employee cost etc., shall be excluded from the norms in the trajectory.
- (e) The One-time expenses and the expenses beyond the control of the Distribution Licensee shall be allowed by the Commission over and above normative Operation & Maintenance Expenses after prudence check.
- (f) The norms in the trajectory shall be specified over the control period with due consideration to productivity improvements.
- (g) The norms shall be determined at constant prices of base year and escalation on account of inflation shall be over and above the baseline.
- (h) The Distribution Licensee specific trajectory of norms shall be identified by the Commission on the basis of absolute and relative analysis.

- (i) In absolute analysis, Distribution Licensee's audited accounts of operations for last three years, expenses claimed for control period, historically approved cost, and prudence check shall be used by the Commission to estimate values of norms.
- (j) In relative analysis, performance parameters of other Distribution Licensees within the same state or in other states shall be considered by the Commission to estimate norms. Provided that other Distribution Licensees so chosen shall have similar profile as that of the Distribution Licensee under consideration in terms of consumer mix, type of license area (city, state, etc.) type of distribution networks, viz., underground/overhead, HT-LT ratio, etc.
- (k) Suitable average of outcomes of absolute and relative analysis shall be taken by the Commission to fix the norms over the control period for the Distribution Licensee.

The ED-Goa has made the detailed description of all components of O&M expenses along with the norms specified for derivation of the expenses. The ED-Goa has computed the norms based on 4 years average expenses as detailed hereunder:

Norm for Employee expenses

Employee cost parameters for last five years

Particulars	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14
No. of Consumers (at the end of FY)	537,769	573,646	579,913	585,177	583,286
No. of Employees (at the end of FY)	5,873	5,940	6,157	6,506	6,326
No. of Substations (33/11KV)	49	50	50	50	50
Employee Expenses (Rs .Crore)	124.29	123.51	125.89	142.96	168.03
No. of Employees/1000 Consumers	11.00	11.00	11.00	12.00	11.00
No. of Employees per substation	120	119	123	130	127
Annual expenses per Employee (Rs. Lakh/ employee)	2.20	2.10	2.10	2.20	2.70

Computation of Employee Norm						
Particulars	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	4 year Average
No. of Employees/1000 Consumers	11.00	11.00	11.00	12.00	11.00	11.25
<i>For Linking 40% to consumers</i>	4.40	4.40	4.40	4.80	4.40	4.50
Annual expenses per Employee (Rs. Lakh/employee)	2.20	2.10	2.10	2.20	2.70	2.28
No. of Employees per substation	120	119	124	131	127	125.25
<i>For Linking 60% to Sub-station</i>	72.00	71.40	74.40	78.60	76.10	75.15

Proposed Norms with Allocation for Wires & Supply				
Particulars	Unit	Norm	Wire business %	Supply business %
<i>Employee Expenses:</i>			90%	10%
Computation of No. of Employees :				
<i>No. of Empl. per substation</i>	Nos	76		
<i>No. of Employees/ 1000 Consumers</i>	Nos	5		
Annual expenses per Employee	Rs. Lakh/employee	3.00		

Norm for Administration & General Expenses:

A&G parameters for last five years

Particulars	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14
No. of Consumers (at the end of FY)	537,769	573,646	579,913	585,177	583,286
No. of Employees (at the end of FY)	5,873	5,940	6,157	6,506	6,326
A & G Expenses (Rs .Crore)	20.18	17.84	19.31	6.20	7.85
A & G Expenses (Rs.Lakh/1000 Consumers)	3.75	3.11	3.33	1.06	1.35
A & G expenses (Rs. Lakh/ employee)	0.34	0.30	0.31	0.10	0.12

Computation of A & G Norm						
Particulars	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	4 year Average
A & G Expenses (Rs. Lakh/1000 consumers)	3.75	3.11	3.33	1.06	1.35	2.21
For Linking 50% to consumers	1.88	1.55	1.66	0.53	0.67	1.11
A & G Expenses (Rs. Lakh/employee)	0.34	0.30	0.31	0.10	0.12	0.21
For Linking 50% to employees	0.17	0.15	0.16	0.05	0.06	0.10

Proposed Norms with Allocation for Wires & Supply				
Particulars	Unit	Norm	Wire business %	Supply business %
<i>A & G Expenses:</i>			75%	25%
Linked to consumers	(Rs. Lakh/1000 consumers)	1.20		
Linked to employees	(Rs. Lakh/employee)	0.11		

Norm for Repairs & Maintenance (R&M) expenses

Repairs & Maintenance (R&M) Expense parameter for last five years

Computation of R & M Norm - % of GFA						
Particulars	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	4 year Average
R&M Expenses (Rs. Crs)	16.69	16.55	17.03	18.94	25.57	19.52
Opening GFA (Rs. Crs)	420.64	499.57	595.50	693.69	816.84	651.40
R&M Expenses (% of GFA)	4%	3.3%	2.9%	2.7%	3.1%	3.0%

Proposed Norms with Allocation for Wires & Supply				
Particulars	Unit	Norm	Wire business %	Supply Business %
<i>R & M Expenses:</i>	% of GFA	3.00%	95%	5%

Commission's Analysis:

The Commission has kept the JERC (Multi Year Distribution Tariff) Regulations, 2014 in abeyance and extended the JERC (Terms and Conditions for Determination of Tariff) Regulations, 2009 up to FY 2015-16. Accordingly, the Commission has analysed the cost parameters of ARR for FY 2015-16 as per JERC (Terms and Conditions for Determination of Tariff) Regulations, 2009.

As specified in Regulation 27(3)(b) of JERC Regulations, 2009 the O&M expenses shall be adjusted according to variation in rate of WPI per annum to determine the O&M expenses for subsequent year. The WPI inflation Index used for computation of Employee Cost, A&G Expenses and R&M Expenses is given below:

S. No.	Financial year	Average WPI
1	FY 2013-14	177.64
2	FY 2012-13	167.62
3	Increase over previous year % [(1-2)/2]*100	5.98%

Accordingly, the Commission has computed the cost parameters of O&M expenses based on the costs considered by the Commission in review for FY 2014-15 duly escalated for increase in inflation index for FY 2015-16. The Commission has considered the inflationary index for employee cost, A&G Expenses and R&M expenses to the increase in WPI per annum as given below:

O&M Expenses	Inflation Index
Employee Cost	5.98%
A&G Expenses	5.98%
R&M Expenses	5.98%

The Commission based on the O&M expenses considered in review for FY 2014-15 has computed the O&M expenses for FY 2015-16 duly factoring for the increase in the inflationary index as given below:

Table 6.45: O&M Expenses approved for FY 2015-16)

(Rs. Cr)

Sl. No.	Particulars	Approved for FY 2014-15 (RE)	Inflationary index	Inflationary increase	Approved for FY 2015-16
1	2	3	4	5 (3*4)	6 (3+5)
1	Employee Expenses	152.42	5.98%	9.11	161.53
2	A&G Expenses	9.46	5.98%	0.57	10.03
3	R&M Expenses	11.96	5.98%	0.72	12.68
4	Total O&M Expenses	173.84		10.40	184.24

6.7.2 Capital Expenditure and Capitalization

Petitioner's submission

The ED-Goa has projected the capital expenditure and capitalization for FY 2015-16. The ED-Goa has projected the capital expenditure of Rs. 817 Cr. for FY 2015-16. The total capitalization of assets projected out of the above capital expenditure is Rs. 475.50 cr. as shown in the table below.

Table 6.46: Capital Expenditure and Capitalization for FY 2015-16

(Rs. Cr)

Sr. No.	Particulars	Petitioner's submission
1	Capital Expenditure	817.00
2	Capitalization	475.50

Commission's analysis

The Commission observes that the capital expenditure and the capitalization submitted by the Petitioner for FY 2015-16 is required to meet the increasing demand and augmentation of the existing network.

The Regulation 21 of JERC for the State of Goa and UTs (Terms and conditions for determination of Tariff), Regulations 2009 specifies that the licensee shall propose in their filings, a detailed capital investment plan, showing ongoing projects separately that will spill into the ensuing year and new projects (along with their justification) that will commence in the ensuing year. The Petitioner has submitted the capital investment plan as per the Regulations, which is being considered separately for approval.

The Commission, however, has considered the capital expenditure and capitalization as submitted by the Petitioner for FY 2015-16.

6.7.3 GFA and Depreciation**Petitioner's submission**

The Petitioner, based on the capitalization has submitted the GFA and Depreciation for FY 2015-16 as detailed in the Table below:

Table 6.47: Depreciation projected by the Petitioner for FY 2015-16 (Rs. Crore)

Sl. No.	Particulars	Petitioner's submission
1	Opening Gross Fixed Asset	1,043.09
2	Add: Assets added during year	307.50
3	Less: Withdrawal during year	-
4	Closing Gross Fixed Asset	1,350.59
5	Average Gross Fixed Asset	1,196.84
6	Average rate of Depreciation	5.28%
7	Total Depreciation for year	63.19

Commission's Analysis**(1) Net additions to GFA**

The Commission has considered the net additions to GFA during FY 2015-16 after considering the assets created out of APDRP funds and ED Fund as detailed in the Table.

Table 6.48: Net additions to GFA during FY 2015-16 (Rs. Cr)

Sl. No.	Particulars	Approved for FY 2015-16
1	Capitalisation	475.50
2	Less: 60% Grant component of APDRP	120.00
3	Less: Schemes out of ED fund	48.00
4	Net additions to GFA (1-2-3)	307.50

(2) Depreciation

The Commission has considered closing GFA of Rs. 581.37 Crore in review for FY 2014-15, which is considered as opening GFA as on 1st April, 2015.

The effective rate of depreciation for distribution assets is 5.28% vide Appendix-III (Depreciation schedule of CERC (Terms and Conditions of Tariff) Regulations, 2009. As a standard practice, and as per the JERC Tariff Regulations, depreciation is computed on the average value of assets at the end of the year.

The Commission has considered net additions to GFA at Rs. 307.50 Crore in the preceding paragraph for FY 2015-16. The Commission has considered the GFA and Depreciation for FY 2015-16 as detailed in the table below:

Table 6.49: Depreciation approved for FY 2015-16 (Rs. Crore)

Sl. No.	Particulars	Petitioner's submission	Approved for 2015-16
1	Opening GFA	1,043.09	581.37
2	Capitalization	307.50	307.50
3	Closing GFA (1+2)	1,350.59	888.87
4	Average GFA (1+3)/2	1,196.84	735.12
5	Average rate of Depreciation	5.28%	5.28%
6	Depreciation (4*5)	63.19	38.81

6.7.4 Interest and Finance Charges

Petitioner's submission

The ED-Goa has considered opening loan for FY 2015-16 based on normative closing of FY 2014-15. The interest rate considered is 11.75% which is the weighted average interest rate as per actual loan drawn by the ED-Goa. The letter of credit charges for all the years has been considered in line with that estimated during FY 2014-15. The normative repayments are in line with the depreciation projected for FY 2015-16.

The Petitioner has computed the interest on loan for FY 2015-16 as detailed in the table below.

Table 6.50: Interest on Loan for FY 2015-16 (Rs. Crore)

Sl. No.	Particulars	Petitioner's submission
1	Opening Normative Loan	632.31
2	Add: Normative Loan during year (70% of Capitalization)	215.25
3	Less: Normative Repayment	63.19
4	Closing Normative Loan	784.37
5	Average Normative Loan	708.34
6	Rate of Interest	11.75%
7	Interest on Normative Loan	83.23
8	Add: Letter of Credit Charges	4.97
9	Total Interest & Finance Charges	88.20

Commission's Analysis

The Commission has considered closing normative loan of Rs.314.67 Crore for FY 2014-15 in review which is considered as opening normative loan as on 1st April, 2015. The addition in the normative loan amount has been taken to be 70% of the net additions to the GFA in FY 2015-16. The Commission has considered the weighted average rate of interest @ 7.99% as approved for FY 2014-15 and the normative repayment is considered to be equal to the amount of depreciation allowed in respect years.

The Petitioner has claimed Letter of Credit (LC) charges at Rs. 4.97 Crore for FY 2015-16. The Commission in review for FY 2014-15 has considered Rs. 1.30 Crore towards LC charges. Accordingly, the Commission has considered Rs. 1.30 Crore for FY 2015-16 subject to True up based on audited accounts.

The Commission approves the normative interest and LC charges for FY 2015-16 as detailed in the table below:

Table 6.51: Interest on loan approved for FY 2015-16 (Rs. Crore)

Sl. No.	Particulars	Petitioner's submission	Approved for FY 2015-16
1	Opening Normative Loan	632.31	314.67
2	Normative additions during the year (70% of Net additions to GFA)	215.25	215.25
3	Less: Loan Repayment	63.19	38.81
4	Closing Normative Loan	784.37	491.11
5	Average Normative Loan	708.34	402.89
6	Rate of Interest	11.75%	7.99%
7	Interest on Loan	83.23	32.19
8	Finance Charges	4.97	1.30
9	Interest on Loan & Finance	88.20	33.49

6.7.5 Interest on Working Capital

Petitioner's submission

The ED-Goa submitted that the regulation 25 of MYT Regulations 2014 specifies interest on working capital is only for retail supply business. The ARR being calculated relates to both retail supply business and wheeling business, therefore the ED-Goa is considering the provision of Tariff Regulations, 2009 for calculating interest on working capital. The Interest Rate is considered equivalent to the SBI PLR for the year FY 2014-15 which is at 14.75%. Accordingly, the Petitioner has computed the interest on working capital for FY 2015-16 as detailed in the table below:

Table 6.54: Interest on working capital projected for FY 2015-16

(Rs. Cr)

Sl. No.	Particulars	Petitioner's submission
1	Power Purchase Cost - 1 Month	95.82
2	Employee Cost - 1 Month	19.37
3	Administration & General Expenses - 1 Month	1.36
4	R&M Cost - 1 Month	3.11
5	Less: Security Deposit Opening Balance	90.71
6	Total	28.95
7	Interest Rate	14.75%
8	Interest on working capital	4.27

Commission's Analysis

Regulation 29 (2) of the JERC Tariff Regulations, 2009 specifies “..... the working capital for distribution business shall be the sum of one month requirement for meeting:

- (a) Power purchase cost
- (b) Employee cost
- (c) Administration and General expenses and
- (d) Repairs & Maintenance expenses.

(4) The rate of interest on working capital shall be equal to the base rate for the State Bank of India on the 1st April of the relevant financial year.”

As per the Regulation the rate of interest for working capital shall be considered at SBI Advance Rate (PLR) as on 1st April of the relevant year. The SBI advance rate as on 1st April 2014 is @14.75% and the same is adopted for computation of interest on working capital for FY 2015-16.

The Commission accordingly has computed the interest on working capital for FY 2015-16 as detailed in the Table below:

Table 6.52: Interest on working capital approved for FY 2015-16 (Rs. Crore)

Sl. No.	Particulars	Approved for 2015-16
1	Power purchase (1 month)	87.36
2	Employee cost (1 month)	13.46
3	Administration & General expenses (1 month)	0.84
4	Repairs & Maintenance Expenses (1 month)	1.06
5	Total Working Capital requirement	102.72
6	Less: Security Deposit	86.83
7	Net working capital requirement	15.89
8	Rate of interest	14.75%
9	Interest on working capital	2.34

The Commission therefore, approves the interest on working capital as Rs. 2.34 Cr. for FY 2015-16.

6.7.6 Interest on Security Deposit

Petitioner's submission

The Petitioner has submitted that security deposit for FY 2015-16 has been considered based on closing of FY 2014-15 and addition to security deposit is considered based on the number of consumers added during the year. The interest rate is considered at 9% based on the RBI bank rate as specified in the Regulations.

The Petitioner has accordingly computed the interest on security deposits for FY 2015-16 as detailed in the table below:

Table 6.53: Interest on security deposit projected for FY 2015-16

(Rs. Cr)

Sl. No.	Particulars	Petitioner's submission
1	Opening Security Deposit	90.71
2	Add: Deposits during the Year	1.14
3	Less: Deposits refunded	-
4	Closing Security Deposit	91.85
5	RBI Bank Rate	9.00%
6	Interest on Security Deposit	8.27

Commission's Analysis

As per Regulation 25 (4) of JERC Tariff Regulations, 2009, interest on security deposits made by the consumers shall be equivalent to the bank rate or at rate specified by the Commission whichever is higher.

On account of provisions mentioned in the Act and Regulations, the Commission directs the Petitioner to pay the interest on security deposit collected from the consumers at the RBI Bank Rate of interest which is at 8.50%.

The Commission has considered closing security deposits at Rs. 86.83 Crore for FY 2014-15 and the same is considered as opening security deposits for FY 2015-16. The additions to the security deposits are considered as projected by the Petitioner.

The Commission accordingly, computed the interest on Consumer Security deposit for FY 2015-16 as detailed in the table below.

Table 6.54: Interest on security deposit approved for FY 2015-16

(Rs. Cr)

Sl. No.	Particulars	Petitioner's submission	Approved for 2015-16
1	Opening Security Deposit	90.71	86.83
2	Add: Deposits during the Year	1.14	1.14
3	Less: Deposits refunded		
4	Closing Security Deposit	91.85	87.97
5	Average Security Deposit	91.28	87.40
6	Bank Rate	9.00%	8.50%
7	Interest on Security Deposit	8.22	7.43

The Commission therefore, approves the interest on security deposit as Rs. 7.43 Cr. for FY 2015-16.

6.7.7 Return on Equity**Petitioner's submission**

The ED-Goa has submitted that Return on Equity has been calculated based on normative opening equity for FY 2015-16 which is the normative closing equity for FY

2014-15. The equity additions during each of the years is 30% of the asset capitalized during the respective years net of asset addition due to grants received for APDRP Part B/IPDS Schemes and net of asset created due to ED fund. The rate of equity considered is as specified in the Regulations.

The Petitioner has computed the Return on Equity for FY 2015-16 as detailed in the table below.

Table 6.55: Return on equity projected for FY 2015-16

(Rs. Cr)

Sl. No.	Particulars	Petitioner's submission
1	Opening Equity	312.93
2	Add: Equity for the year (30% of Capitalization)	92.25
3	Closing Equity	405.18
4	Average Equity	359.05
5	Rate of Equity	16%
6	Return on Equity *	57.45

Commission's Analysis

The Commission has kept the JERC (Terms and Conditions for Determination of Tariff) Regulations, 2014 in abeyance and made applicable the JERC (Terms and Conditions for Determination of Tariff) Regulations, 2009 for the tariff year FY 2015-16.

Regulation 23(2) of the JERC Tariff Regulations, 2009 provides that in case of an integrated utility, it shall be entitled to return on its capital base as per Schedule VI of the Electricity (Supply) Act, 1948.

ED-Goa being an integrated utility is entitled to return on capital base in terms of Regulation 23(2) of the JERC Tariff Regulations, 2009.

The Commission accordingly, considered return on capital base for FY 2015-16 as given in the Table below:

Table 6.56: Return on Capital Base approved for FY 2015-16 (Rs. Crore)

Sl. No.	Particulars	Approved for 2015-16
1	Gross block at the beginning of the year	581.37
2	Less: Accumulated depreciation at the beginning of the year	53.99
3	Less: Accumulated consumer contribution at the beginning of the year	
4	Net fixed assets at the beginning of the year (1-2-3)	527.38
5	Rate of Return on capital base	3.00%
6	Reasonable Return (4*5)	15.82

6.7.8 Non-Tariff Income

Petitioner's submission

The Non-Tariff Income is estimated at Rs.6.65 Crore for FY 2015-16 which comprises of proceeds from sale of dead stock, waste paper & other miscellaneous receipts.

Commission's analysis

The Commission has considered the Non-tariff income at Rs.6.74 Crore in review for FY 2014-15. Accordingly, the Commission considers the non-tariff income at the level i.e. at Rs. 6.74 Crore of FY 2014-15 for FY 2015-16.

6.8 Aggregate Revenue Requirement (ARR) for FY 2015-16

Petitioner's Submission

The Petitioner based on the projections has arrived at the net Revenue Requirement for FY 2015-16 as detailed in the Table below.

Table 6.57: Aggregate Revenue Requirement projected for FY 2015-16

(Rs. Cr)

Sl. No.	Particulars	Petitioner's submission
1	Cost of power purchase	1,149.85
2	Employee costs	232.45
3	R&M expenses	37.3
4	Administration and General expenses	16.27
5	Depreciation	63.19
6	Interest on Loan & Finance charges	88.2
7	Interest on Working Capital	4.27
8	Interest on Security Deposit	8.27
9	Return on Equity	57.45
10	Total Revenue Requirement	1,657.26
11	Less: Non-Tariff Income	6.65
12	Net Revenue Requirement	1,650.60

Commission's Analysis

The Commission based on the items of expenditure and Non-tariff income discussed in the preceding sections has arrived at the ARR for FY 2015-16 as given in the Table below.

Table 6.58: Aggregate Revenue Requirement approved for FY 2015-16

(Rs. Cr)

Sl. No.	Particulars	Petitioner's submission	Approved for FY 2015-16
1	Cost of power purchase	1,149.85	1048.34
2	Employee costs	232.45	161.53
3	R&M expenses	37.3	12.68
4	Administration and General expenses	16.27	10.03
5	Depreciation	63.19	38.81
6	Interest on Loan & Finance charges	88.2	33.49
7	Interest on Working Capital	4.27	2.34
8	Interest on Security Deposit	8.27	7.43
9	Return on Equity	57.45	15.82
10	Total Revenue Requirement	1,657.26	1330.47
11	Less: Non Tariff Income	6.65	6.74
12	Net Revenue Requirement	1,650.60	1323.73

6.9 Revenue at Existing Tariff and Revenue Gap for FY 2015-16

Petitioner's Submission

The Petitioner has submitted that the revenue from sale of power from existing retail Tariffs for FY 2015-16 comes to Rs. 1136.95 Crore as shown in the Table below:

Table 6.59: Revenue at existing Tariff submitted by the Petitioner for FY 2015-16

(Rs. Cr)

Sl. No.	Category of Consumer	Energy sale/ Demand (MU)	Revenue (Rs. Crore)	Average Cost (Rs/kWh)
A	Low Tension Supply	1288	331.61	2.58
1(a)	Tariff LTD/Domestic & Non-Commercial	758	146.19	1.93
	First 60 units	162	20.73	1.28
	61-250 units	457	82.93	1.82
	251-500 units	110	32.30	2.94
	Above 500 units	29	10.22	3.47
1(b)	Tariff LTLIG/Low Income Group	7	0.38	0.53
1(c)	Tariff LTD/Domestic mixed	8	2.50	3.17
	First 400 Units	6	1.91	2.96
	Above 400 Units	1	0.59	4.09
2	Tariff-LTC/Commercial	277	104.41	3.76
	First 100 Units	135	44.08	3.27
	From 101 to 1000 Units	124	51.61	4.16
	All Consumption above 1000 Units	18	8.71	4.74
3(a)	Tariff-LTP/Motive Power	157	54.56	3.48
	Connected Load upto 50 HP	8	2.40	2.92
	Connected Load above 50 HP	148	52.16	3.52
3(b)	Tariff-LTP/Ice manufacturing	7	2.17	3.34
	Connected Load upto 100 HP	7	2.17	3.34
3(c)	Tariff-LTP/Mixed (Hotel Industries)	3	1.33	4.46
4	Tariff-LTAG/ Agriculture	25	3.74	1.49
5	Tariff-LTAG/ Public Lighting	39	14.56	3.70
6	Tariff LT PWW/Public Water Works	6	1.77	2.76
B	High Tension Supply	1898	775.88	4.09
7	Tariff HT Mixed	133	59.89	4.50
8(a)	Tariff HTI/Industrial	675	280.49	4.15
8(b)	Tariff HTI/Hotel Industrial	140	56.14	4.01
8(c)	Tariff HTI/Ice Manufacturing	1	0.39	3.85
9	HT Industrial (Ferro Mettallurgical/ Steel Melting/ Power Intensive/ Steel Rolling)	577	228.26	3.96
	First 300 units/kVA	312	122.75	3.94
	Nest 200 units/kVA	218	86.04	3.94
	Above 500 units/kVA	47	18.54	3.94

Sl. No.	Category of Consumer	Energy sale/ Demand (MU)	Revenue (Rs. Crore)	Average Cost (Rs/kWh)
10	Tariff-HTAG/ Agriculture	5	0.92	1.92
11	EHTI/Industrial	175	75.46	4.32
12	HT PW/Public Water Supply and sewage	144	55.80	3.86
13	HT MES/Defence Establishments	27	10.22	3.77
14	HT industries Steel Rolling	0	0	0
15	Tariff HT industries(IT High Tech)	21	8.32	3.96
C	Temporary Supply	39	29.46	7.61
16	Tariff-LT/ Temporary	38	29.28	7.62
17	Tariff-HT/ Temporary	0	0	0
18	Hoarding / Sign Board	0	0.18	7.24
	Total	3225	1136.95	3.53

The Revenue Gap for FY 2015-16 submitted by the petitioner is given in the table below.

Table 6.60: Projected Revenue Gap for FY 2015-16

Particulars	FY 2015-16
Net Revenue Requirement	1650.60
Revenue from retail sales at existing tariff including FPPCA Charges	1136.95
Net Gap	513.65
Energy Sales (MU)	3224.70
Average Cost of Supply (Rs/kWh)	5.12

Commission's analysis

Based on the estimates of sales, consumers and connected load approved by the Commission for FY 2015-16, the Commission has arrived at the revenue from existing tariff of Rs. 1138.30 Crore for FY 2015-16 and category wise revenue is given in the Table below:

Table 6.61: Revenue at existing Tariff approved by the Commission for FY 2015-16

(Rs. Cr)				
Sl. No	Category of Consumer	Energy Sale/ /Demand (MU)	Revenue Realization (Rs. Crore)	Average Realiation (Rs/kWh)
A	Low Tension Supply	1327	344.59	2.60
1(a)	Tariff LTD/Domestic & Non- Commercial	764	147.21	1.93
	First 60 units	163	20.85	1.28
	61-250 units	461	83.60	1.81
	251-500 units	111	32.61	2.94
	Above 500 units	29	10.15	3.47
1(b)	Tariff LTLIG/Low Income Group	2	0.39	1.94
1(c)	Tariff LTD/Domestic mixed	8	2.19	2.74
	First 400 Units	6	1.78	2.97
	Above 400 Units	1	0.41	4.12

Sl. No	Category of Consumer	Energy Sale/ /Demand (MU)	Revenue Realization (Rs. Crore)	Average Realiation (Rs/kWh)
2	Tariff-LTC/Commercial	281	105.65	3.76
	First 100 Units	137	44.73	3.27
	From 101 to 1000 Units	126	52.27	4.16
	All Consumption above 1000 Units	18	8.65	4.74
3(a)	Tariff-LTP/Motive Power	188	64.15	3.41
	Connected Load upto 50 HP	10	2.75	2.87
	Connected Load above 50 HP	177	61.40	3.46
3(b)	Tariff-LTP/Ice manufacturing	8	2.65	3.32
	Connected Load upto 100 HP	8	2.65	3.32
3(c)	Tariff-LTP/Mixed (Hotel Industries)	5	2.14	4.27
4	Tariff-LTAG/ Agriculture	25	3.74	1.49
5	Tariff-LTAG/ Public Lighting	40	14.80	3.70
6	Tariff LT PWW/Public Water Works	6	1.67	2.78
B	High Tension Supply	1868	764.55	4.09
7	Tariff HT Mixed	136	60.91	4.47
8(a)	Tariff HTI/Industrial	637	267.90	4.21
8(b)	Tariff HTI/Hotel Industrial	143	57.30	4.00
8(c)	Tariff HTI/Ice Manufacturing	2	0.69	3.44
9	HT Industrial (Ferro Metallurgical/ /Steel Melting/ Power Intensive/ /Steel Rolling)	576	226.99	3.94
	First 300 units/kVA	311	122.71	3.94
	Nest 200 units/kVA	218	85.78	3.94
	Above 500 units/kVA	47	18.49	3.94
10	Tariff-HTAG/ Agriculture	6	1.08	1.80
11	EHTI/Industrial	175	75.56	4.32
12	HT PW/Public Water Supply and sewage	144	55.63	3.86
13	HT MES/Defence Establishments	27	10.18	3.77
14	HT industries Steel Rolling	0	0.00	
15	Tariff HT industries(IT High Tech)	21	8.32	3.96
C	Temporary Supply	38	29.16	7.61
16	Tariff-LT/ Temporary	38	28.95	7.62
17	Tariff-HT/ Temporary	0	0.00	
18	Hoarding / Sign Board	0.3	0.21	7.05
	Total	3233	1138.30	3.52

Revenue Gap at existing tariff for FY 2015-16

The revenue Gap for FY 2015-16 approved by the Commission is given in the Table below.

Table 6.61: Approved Revenue Gap for FY 2015-16

Particulars	FY 2015-16
Aggregate Revenue Requirement	1323.73
Revenue from existing tariff including FPPCA	1138.30
Net Gap	185.43
Energy Sales (MU)	3233
Average Cost of Supply (Rs/kWh)	4.09

7. Compliance of Directives

7.1 Compliance of Directives

The Commission had in its previous order issued directives to ED-GOA within the parameters of Section 61 of the Electricity Act, 2003 which stipulates that the Commission shall be guided by the factors which would encourage competition, efficiency, economical usage of resources, grid performance and optimum investment in specifying the terms and conditions for determination of tariff. The Directives as provided by the Commission and the status of the said Directives are below:

(A) Compliance of Directives pending from the previous orders are shown below**1. Annual Statement of Accounts**

Directive: The Commission had given a time bound direction in its order for FY 2012-13, however the Petitioner has failed to appreciate the requirement of the audited accounts. The Commission would like to reiterate its direction to the Petitioner for getting its accounts audited at the earliest. Further, the Commission also directs the Petitioner to file a monthly status report for the above.

(a) Compliance/Action taken as per Tariff order dated March 31 2013

ED-Goa submitted the response as given below:

"The Hon'ble Commission in its order directed ED – Goa to prepare Annual Statement of Accounts separately and on commercial principles. ED – Goa would like to submit that the accounts for the electricity business are always maintained separately. This is in line with Government of Goa Notification (Pro-forma Accounts), hence commercial principles are already being implemented. Further, ED – Goa would like to submit that the Annual Accounts for FY 2006-07 has been audited and certified. With this certification the audit of accounts for the year FY 2007-08 are already in process and shall be completed at the earliest. ED – Goa assures the Hon'ble Commission that it would complete this exercise of bringing the audited accounts updated on priority basis and inform the Hon'ble Commission from time to time."

Commission's observation as per Tariff Order dated March 31 2013

The Commission had given a time bound direction in its order for FY 2012-13, however the Petitioner has failed to appreciate the requirement of the audited accounts. The Commission would like to reiterate its direction to the Petitioner for getting its accounts audited at the earliest. Further, the Commission also directs the Petitioner to file a monthly status report for the above.

(b) Compliance/Action taken as per Tariff Order dated 15th April 2014**Petitioner's submission**

ED-Goa submitted the response as given below:

"ED-Goa would like to submit that it has appointed consultant for Preparation of Financial Statements (FS) from FY 2007-08 to FY 2012-13 vide its letter dated 24th September 2013. The Consultant has submitted the Draft Report on FS for FY 2007-08

on 9th December 2013. The FS report is being submitted to Hon'ble Commission separately for compliance purposes. The consultant would try to submit FS report for balance years i.e. FY 2008-09 to FY 2012-13 in next 5-6 months time frame. So ED-Goa expects that it would streamline its record by mid 2014."

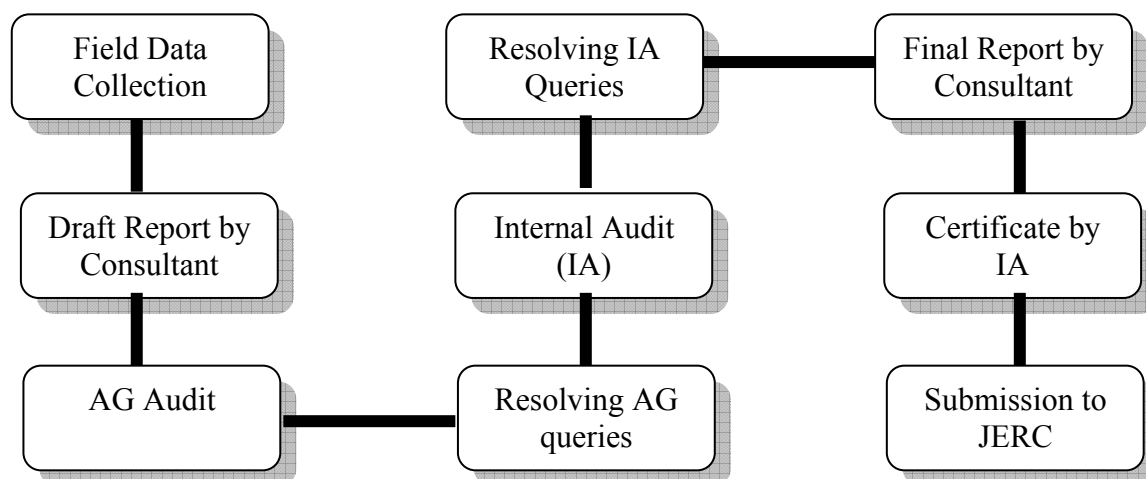
Commission's observation as per Tariff Order dated 15th April, 2014

The Commission takes note of the Petitioner's submission and directs the Petitioner to file the pending true up and financial statements for FY 2008-09 onwards, strictly in compliance with the accounting standards after getting the accounts audited. This should be complied latest by September 30'2014.

(c) Compliance/Action taken as per the present Petition for this Tariff Order

Petitioner's submission:

Response to Directive: ED-Goa would like to submit the process of the finalisation of which takes nearly 4-5 months to complete 1 Financial Statement.



ED-Goa submits that data is collated and prepared on manual basis for all the past years from all the sub-divisions to division level and then from division to circle level. ED-Goa submits that it massive task to prepare accounts which were pending from FY 2007-08 onwards. The major efforts are required in terms of data being collated from all divisions for billing & collection (sales & revenue).

Further the Accounts officers are not in direct control of Electricity Department as they belong to Directorate of Accounts department. Also the Government Audit office takes time to nominate its team for Audit of financial statements of which also is an uncontrollable factor.

Sl. No.	Financial Year	Status	Likely Date of Completion
1	FY 2007-08	The same is completed and submitted to Commission on 09/01/2014	Completed on 09/01/2014
2	FY 2008-09	Audit by Internal Auditor and CAG is completed on 19/09/2014, Provisional comments received from CAG on 13/11/2014 and Replied on 18/11/2014, Further Provisional comments received from CAG on 02/12/2014 compliances to further comments are in progress	Audit Completed on 19/09/2014

Sl. No.	Financial Year	Status	Likely Date of Completion
3	FY 2009-10	Audit by Internal Auditor and CAG is completed on 19/09/2014, Provisional comments received from CAG on 08/12/2014. Compliances to further comments are in progress	Audit Completed on 19/09/2014
4	FY 2010-11	Draft Pro-forma Account received from M/s Feedback Infra Pvt. Ltd on 15/09/2014. And was kept pending. However the same has not process due to non finalization of previous years Accounts. Now same forwarded to CAG for Audit vide the letter No. CEE/Accts-99(A)/2014-15/3923 dated 05/01/2015	Audit Pending
5	FY 2011-12	The data is being collated from all divisions mainly for billing & collection (sales & revenue) and the draft accounts are under preparation. Thereafter AG Audit & Internal Audit would be undertaken which would likely take 1 month.	September 2015
6	FY 2012-13	The data is being collated from all divisions mainly for billing & collection (sales & revenue) and the draft accounts are under preparation. Thereafter AG Audit & Internal Audit would be undertaken which would likely take 1 month.	September 2015

ED-Goa expects to positively finalise accounts up to FY 2012-13 by September 2015. Considering the facts and the positive intent to comply with the Commission's directive, ED-Goa requests to grant additional time.

Commission's Comments

The Commission noted that preparation of accounts for FY 2011-12 to FY 2012-13 is not yet done. The Commission observes that ED-Goa has sought time till Sep-2015 for completion of Audited Accounts till FY 2012-13 and expects the same to be adhered to.

The Commission directs the Petitioner to expedite preparation of annual accounts for FY 2013-14 also and get them audited.

2. Preparation of Asset and Depreciation Register

Directive: ED-Goa is directed to prepare Asset and Depreciation Register function wise and asset classification wise. The Petitioner is directed to submit quarterly progress report and the completion date of the preparation of the asset and depreciation registers function wise after getting them audited.

(a) Compliance/Action taken as per Tariff order dated March 31, 2013

Ed-Goa has submitted its response as given below.

"The Hon'ble Commission has directed ED – Goa to prepare Asset and Depreciation Register function wise and asset classification wise. ED – Goa hereby submits that there are two functions carried out by ED – Goa viz Transmission and Distribution functions. ED – Goa has already taken steps for preparing the Asset register for both Transmission

and Distribution. The classification of Assets is being done similar to the classification heads provided by the Hon'ble Commission in the Tariff Regulations. Further, ED – Goa has sent the formats to various divisions (field offices); which are annexed to this petition at Annexure VIII: Format for Asset & Depreciation Information for reference of the Hon'ble Commission. Further, the depreciation register is also being prepared in line with the Hon'ble Commission's directive. ED – Goa also submits that once the compilation of classification of assets and depreciation register information is received from the field officers, Hon'ble Commission shall be intimated. The required information shall be submitted to Hon'ble Commission after due verification by Accounts Department preferably within a period of 6-8 months."

Commission's observation as per Tariff order dated March 31, 2013

The action taken is noted.

(b) Compliance/Action taken as per Tariff Order dated 15th April, 2014

Petitioner's submission

Ed-Goa has submitted its response as given below.

"ED-Goa would like to submit that it has appointed consultant for Preparation of Fixed Assets Register (FAR) from FY 2007-08 to FY 2012-13 vide its letter dated 24th September 2013. The Consultant has submitted the Draft Report on FAR for FY 2007-08 on 9th December 2013. The FAR report is being submitted to Hon'ble Commission separately for compliance purposes. The consultant would try to submit FAR report for balance years i.e. FY 2008-09 to FY 2012-13 in next 3-4 months time frame. So ED-Goa expects that it would streamline its record by mid 2014."

Commission's Comments in the Tariff Order dated 15th April, 2014

The Commission appreciates the efforts taken by the Petitioner and direct the Petitioner that the FAR for all the previous year be submitted to the Commission latest by 30th September, 2014.

(c) Compliance/Acton taken as per the present Petition to this Tariff Order

Petitioner's Submission

ED-Goa would like to submit that it has taken cognisance of the suggestions/ observations of the Commission in regard to FAR report of FY 2007-08 while finalising FAR from FY 2008-09 to FY 2012-13. ED-Goa would like to submit that FAR works for all years up to FY 2012-13 has been completed.

ED-Goa submits that the impact of FAR in terms of Gross Fixed Assets, depreciation calculation etc. is being taken into Financial Statements of the respective year which are duly audited by Government Auditors and Internal Auditors.

Commission Comments

Action taken is noted. The ED-Goa is directed to expedite preparation of the Fixed Asset Register for FY 2013-14 and to submit a copy of the same by 30th September, 2015. GIS mapping of the assets should also be done on a regular basis.

3. Energy Audit and T&D Losses

Directive: ED-Goa is directed to get its distribution system studied so that appropriate loss reduction trajectory could be fixed. It is also directed that the Petitioner shall furnish six monthly energy audit reports to the Commission as required under Regulation 15(4) of the JERC Tariff Regulations, 2009.

The Petitioner is directed to furnish segregation of losses into transmission, distribution and commercial losses separately in their next petition along with a status report on energy accounting and T&D losses.

The Commission would like the Petitioner to prepare a loss reduction road map for bringing down losses to 10% level and submit to the Commission by 31st October, 2012. The Commission on receipt and acceptance of the loss reduction road map shall approve loss reduction trajectory for subsequent years.

(a) Compliance/Action taken as per Tariff order dated March 31, 2013

Ed-Goa has submitted its response as given below.

"ED – Goa would like to submit that a Consultant has been appointed in this regards and the process is being carried out. In line with the Hon'ble Commission's directive, ED – Goa shall carry out the Energy Audit for the first 6 months period of FY 2012-13 and submit to Hon'ble Commission. Thereafter upon receipt of comments/ suggestions from the Hon'ble Commission, the 2nd Energy Audit for next 6 months period or as may be directed by Hon'ble Commission shall be conducted through consultants."

Commission's observation as per Tariff order dated March 31, 2013

The action taken is noted.

(b) Compliance/Action taken as per the Tariff Order dated 15th April, 2014**Petitioner's Submission**

Ed-Goa has submitted its response as given below.

"ED-Goa submits that it had appointed a consultant for preparation of Energy Audit for the first 6 months period of FY 2012-13 and loss reduction trajectory along with T&D losses and energy accounting and the same has been submitted to the Hon'ble Commission in October 2013. Thereafter upon receipt of comments/ suggestions from the Hon'ble Commission, the 2nd Energy Audit for next 6 months period or as may be directed by Hon'ble Commission shall be conducted through consultants."

The Consultant has also submitted the report on Best practices to be adopted by ED- Goa.

The Energy Audit Report and Best Practices reports are submitted separately to the Hon'ble Commission. The Report on Loss Reduction Report has been submitted earlier in Case No.76/2012."

Commission's Comments in the Tariff Order dated 15th April, 2014

The action taken is noted. However, the Commission finds that the Energy Audit Report is not upto the mark as it is based on sample network. The Commission also finds that most of the energy meters of the feeders and distribution transformer of even

this sample network are non-functional. Hence, replace non-working meters and/or install working meters in all the feeders and DT's and get the Energy Audit done and submit the report latest by September 30, 2014.

**(c) Compliance/Action taken as per the present petition for this Tariff Order
Petitioner's Submission**

ED-Goa submitted the present status of metering on feeders and DTs as under:

a) Feeder Metering:

- i. Metering of all 11 kV outgoing feeders at the 33/11 kV sub-stations is completed.
- ii. The metering points identified by the Third Party Agency for Energy Audit are all metered.

b) Distribution Transformer (DT) Metering:

- i. 80% of DT metering is completed.
- ii. The metering of balance 20% DT's is to be provided by respective Division. To complete this balance work, the Chief Electrical Engineer has given instructions to all O&M Divisional Engineers to place their requirement of materials to the Executive Engineer, Divn.-II(S&W) for procurement action.
- iii. The time required for completing the balance DT metering work is around 6-months.

Accordingly, ED-Goa would seek additional time to submit Energy Audit report based on complete metering.

Commission's Comments

Action taken in providing meters on feeders and DTs is noted.

The Commission directs ED-Goa;

- a) To provide meters at all feeders and report compliance by 30th September, 2015.
- b) To carry out energy accounting/audit in each month on the basis of meter reading of the meters installed in the feeders and in case the meter is not installed or is defective in a particular feeder, the energy consumption should be assessed on the basis of hours of supply and the average load in the feeder.
- c) To carry out the energy accounting of DTs, in which meter has been provided on a quarterly basis.
- d) To operationalize divisions/subdivision as business/cost centers.
- e) To carry out Division/Subdivision wise energy accounting/audit for FY 2014-15 along with energy accounting of the DTs in which meters are installed and submit a report to the Commission by 30th September, 2015.

4. Employee Cost/Manpower Study

Directive: ED-GOA is directed to analyze its employee strength and their relative deployment, and rationalize their requirement to reduce its manpower and related costs.

The Commission has analyzed the trends of the number of employees/1000 consumers since the year 2009-10. The analysis of the previous year's shows one employee was serving 108, 114 and 111 consumers in FY 2009-10, FY 2010-11 and FY 2011-12 respectively. In FY 2012-13, the Petitioner has projected one employee would be serving 84 consumers. This number as projected by the Petitioner is too high, considering that the all India average number of employee per thousand consumers is 0.405 as per the annual plan of FY 2011-12, which translates into one employee catering to 2500 consumers. Here, in the case of ED-Goa one employee is catering to only 84 consumers of the total consumer base as per the submission of Petitioner for FY 2012-13. This shows that ED-Goa is extremely overstaffed.

The Commission direct the Petitioner that a detailed work force study should be conducted and report be submitted to the Commission by 31st October, 2012.

(a) Compliance/Action taken as per Tariff order dated March 31, 2013

Ed-Goa has submitted its response as given below.

"The Hon'ble Commission in its Tariff order has directed ED-Goa to analyze its employee strength and their relative deployment, and rationalize their requirement to reduce its manpower and related costs. ED-Goa would like to submit that a Consultant has been appointed in this regards and the study is under process. ED-Goa would like to submit that this study shall be submitted to the Hon'ble Commission in 3 months' time i.e. around end of April 2013."

Commission's observation vide Tariff Order dated March 31, 2013

Action taken is noted

(b) Compliance/Action taken as per the Tariff Order dated 15th April, 2014.**Petitioner's Submission**

Ed-Goa has submitted its response as given below.

"The Hon'ble Commission in its Tariff order has directed ED-Goa to analyze its employee strength and their relative deployment, and rationalize their requirement to reduce its manpower and related costs and to conduct a detailed work force study."

ED-Goa submits that it had appointed a consultant for study of employee strength and manpower study and the same is complete. The report is submitted separately to the Hon'ble Commission."

Commission's Comments

The Petitioner has submitted the report. However from the submitted report, the Commission observes that the existing employees per thousand consumers in Goa is

around 10 which is even higher as compared to 8.5 and 5 in Puducherry and Chandigarh respectively. The Commission also observes that ED-Goa is still having the employees such as draughtsman, mechanics, mason mistry, plumber, carpenter, turner/fitter, welder, daftly, lift operator, blue printer etc., which has no contribution to the mainstream business. The Commission is of the view that with development of technology, the requirement of employee per thousand consumers has decreased across utilities in India. In view of this the existing sanctioned posts needs review.

(b) Compliance/Action taken as per the present Petition for this Tariff Order

Petitioner's Submission

No response from the Petitioner.

Commission's Comments

It has been observed that the Petitioner has submitted the Manpower study report to the Commission. The Commission has noted that GED has not done much in context of manpower rationalization. Its manpower costs are on a relatively higher side. Hence, JERC directs that GED will undertake a systemic manpower study report to identify areas where there is excess and work out a systemic plan to reduce the same. The revised Manpower Study report to be submitted by September 30th, 2015.

5. Interest on Security Deposit

Directive in Tariff order for FY 2013-14

The Commission directs the Petitioner to pay the interest on security deposit as required under the Electricity Act, 2003 irrespective of the constraints faced by the utility. The Commission in this regard would view any non-compliance seriously.

(a) Compliance/Action taken as per the Tariff Order dated 15th April, 2014

Petitioner's Submission

ED-Goa would like to submit that it has started evaluating interest amount status of HT consumers and LTP consumers and will start paying to these categories in Phase1, the balance categories shall be considered in due course.

Commissions Comments

The Commission had given the direction for payment of interest on security deposit in the Tariff order for FY 2011-12 and all subsequent tariff orders. Rather than complying with the commission's directive, which is also a statutory requirement. The Commission feels that the Petitioner is delaying the compliance of direction with arbitrary reasons.. The Commission expresses its strong displeasure and once again directs the Petitioner to make payment of interest on security deposit for all pending years and submit the report latest by June 30, 2014 failing which the commission would be constrained to initiate action under section 142 of the Electricity Act, 2003.

(b) Compliance/Action taken as per the present Petition for this Tariff Order
Petitioner's Submission

It is submitted that ED-Goa is in the process of making payment of interest on security deposit for all pending years. ED-Goa has identified an amount of Rs. 8,62,46,936 in this

regard and has submitted a letter to the Government for making a provision of this amount on 17th October 2014. The letter submitted by the ED-Goa to the Government for approval is attached as Annexure VIII to this Petition.

Commission's Comments

The ED-Goa is directed to pursue the issue with the Government and pay the interest to the consumers and send a report to the Commission by June 30th, 2015.

(B) Directives Issued vide Tariff Order dated March 31, 2013

1. Action plan for Alternative arrangements for Supply of power

Directive: Since 2000, some consumers are set to be served by the IPP directly as can be observed from the salient features of PPA submitted by the Petitioner executed between Govt. of Goa and IPP in the state of Goa. Commission cannot overlook the interest of those consumers and such situation where the IPP fails to serve the commitment as per the PPA agreement. In view of the hardship to be faced by the consumers of the State of Goa, the Commission directs the Electricity Department, Goa being an authorised distribution licensee in the State of Goa should device an action plan for providing them with the alternative arrangement for supply of power, so that those consumers should not be left unattended. The Petitioner in accordance with universal supply obligations mandated by Electricity Act, 2003 and ensuring the provisions of the JERC (Electricity Supply Code) Regulations, 2010, should submit within 2 months of this order an action plan in this regard.

(a) Compliance/Action taken as per the Tariff Order dated 15th April, 2014

Petitioner's Submission

ED-Goa submits that it has worked upon a PPA for purchase of 100MW power from Chhattisgarh between the Government and KSK Mahanadi for providing supply to the consumers and the same is in final stages of scrutiny by the Government of Goa.

Commission's Comments

The Petitioner's submission is noted. The Commission further directs the Petitioner to file before the Commission the detailed report along with draft PPA for approval.

(b) Compliance/Action taken as per the present Petition for this Tariff Order

Petitioner's Submission

The Petitioner has not responded to the above directive

Commission's Comments

The Petitioner has not replied to the directive given in the Tariff Order dated April 15th, 2014. The petitioner is directed to report details of PPA for purchase of 100MW power from Chhattisgarh between the Government and KSK Mahanadi for providing supply to the consumers by June 30th, 2015.

2. Details of Power Purchase from PPAs

Directive: The Commission directs the Petitioner to submit the details of the power purchases from the IPP along with details of time slots, frequency and requirement in which purchases were done, corroborated with the evidence that the energy was not

sold by way of under drawal or sale to exchange at the same time slot. The rates of sale through UI or exchange at the same time slot and frequency shall also be correlated with the purchases of the IPP.

(a) Compliance/Action taken as per the Tariff Order dated 15th April, 2014

Petitioner's Submission

The Petitioner has not responded to the above directive

Commission's Comments

The Commission expresses its displeasure on non-compliance of its directive and reiterates its direction. In case of non-compliance of the above directive it would be presumed that the Petitioner has nothing to submit in this regard and agrees with the findings of the Commission that the power purchased from the IPP is uneconomical and not as per merit order.

(b) Compliance/Action taken as per the present Petition for this Tariff Order

Petitioner's Submission

The Petitioner has not responded to the above directive

Commission's Comments

The Commission reiterates its directives given and directs to furnish the details of PPA as called for. The ED-Goa is directed to report whether the IPP is supplying power directly to the consumer.

7.2 New Directives issued in this Tariff Order

1. Creation of separate bank account

- a. The Commission has also noted that many consumers in the Public Hearing have objected and enquired about the transparency and accountability of their money. The consumer's interest needs have to be safeguarded as per section 61 (d) of the Electricity Act 2003. The Hon'ble Commission had earlier suggested that though GED is a Government Department, a separate bank account may be created for all its expenditures and earnings pertaining to Electricity business. However, this has not been done. Hence, the Commission is constrained to direct that separate bank account be created for all earnings and expenditure of the Goa Electricity Department immediately. The Government of Goa will file a compliance report in this regards by end of May 2015. All the Government consumption of electricity and Government budgetary support, if any, would also need to be deposited into this account. However, the expenditure of GED borne by Government in form of Plan and Non-Plan grants could be through normal government accounts. The Commission believes such an approach would help GED in managing business in proper and accountable manner.

2. Unbundling of Electricity Department

- a) As per the provisions of the Electricity Act 2003, the State Government should undertake unbundling of Electricity Department into various business functions so as to increase accountability and efficiency of the distribution and transmission functions.
- b) The State Government should also notify separate State Transmission Utility and SLDC.

3. Sub-Divisions as Strategic Business Units

The present organizational set up of GED appears to be mainly oriented to maintenance of power supply without a corresponding emphasis on realization of revenue. This has resulted in a serious mismatch between the power supplied, expenditure incurred and revenue realized. In this regard, it is suggested that the field level functionaries are made accountable for ensuring realization of revenues corresponding to the energy supplied in their jurisdiction. The Commission suggests GED to introduce the system of Cost-Revenue Centre Oriented Sub-Divisions at least in two Divisions in its operational area and report results of the experiment to the Commission.

4. Installation of Pre-paid Meters

The Commission directs GED to obtain a copy of specification approved by CEA for pre-paid meters and to start implementation of pre-paid meters on pilot basis for Government offices in Town areas. Installation of pre-paid meters for consumers in the Government may be discussed with state government officials and implemented for some government offices as the government offices are mostly the non paying consumers with a lot of arrears.

5. Capital Investment Plan and Monitoring

The Commission observes that petitioner is doing major Capital Expenditure to the tune of more than Rs. 500 Crores involving more than 30-40 individual schemes including schemes undertaken through Electricity Duty Fund. The Commission believes that since huge public money is involved, ED-Goa should ensure that projects get commissioned on time and time/cost overrun are avoided. Hence there has to be mechanism in place to monitor capital expenditure schemes. The Commission has observed that ED-Goa is lacking in data/information pertaining to progress of the schemes. Hence the Commission directs that petitioner would engage a Project Monitoring Consultants (PMC) for all projects costing more than Rs. 5 crores. The third party quality auditors will also be appointed for all projects costing more than Rs. 50 lakhs. The Commission also directs setting-up of Project Monitoring Cell for projects, to monitor the progress of these schemes on real time basis, where PMC is not appointed. The Capital Investment Plan to be submitted for subsequent period should be along with cost benefit analysis and supported by Feasibility Report/Detailed Project Report as the case may be.

6. Arrears of Govt. Departments

GED is directed to provide details of Arrears of Government Departments. The Commission believes that continuous & huge payment defaults will adversely affect the financial health of the GED and have cascading impact on payments to its Suppliers and/Contractors. Hence the Commission is of the considered view that the money owed by these Government Departments should be directly deducted from the budget of these Departments and transferred directly to the separate bank of GED proposed in earlier direction.

7. Create a Central Contracts/tender cell

It is observed that the tenders are floated at division level as and when required. ED-Goa is directed to Create a Central Contracts/tender cell to promote transparency in the process of tendering and project awarding, to ensure project are viable and awarded at a reasonable minimum cost. The status of action taken may be reported by 30th September, 2015.

8. **Strengthening of Regulatory & Commercial Cell.**
It is observed that ED-Goa defaults on directions issued by Commission in various regulatory matters including directions issued in various regulations. Hence Commission suggests that ED-Goa may either strengthen its regulatory & commercial team or engage consultant for the same. The status of action taken may be reported by 30th September, 2015.
9. **Power Purchase Strategy**
ED-Goa shall streamline the power purchase functions in a professional manner and take advantage of the market fluctuations effectively. ED-Goa should finalize long term contracts for power purchase, including the competitive bidding immediately for its requirement in order to minimize its future power purchase cost.
10. **Management Information System (MIS) and Database Management System DBMS)**
The Commission observes the Petitioner is lacking on database management and MIS. CERC has earlier notified Regulations for maintaining Regulatory Information Management System (RIMS) by all utilities. The Commission directs the Petitioner to submit the Terms of Reference for the selection of experts for development/ /improvement of its MIS & DBMS to the Commission, for its review and approval, by 30th June, 2015.
11. **Electricity Duty Fund**
According to notification No. 120/2/CEE/Tech it was envisaged that amount collected as electricity duty will be utilised for development of the power infrastructure in the State. The ED-Goa is directed to submit details of amount collected as electricity duty since FY 2011-12 till FY 2015-16 and amount utilised for infrastructure development.
12. **Renewable Energy Obligation**
The Commission further to its direction provided earlier in this petition, suggests that ED-Goa in association in Goa Energy Development Agency should try to explore opportunities to develop Renewable Energy in the State. Accordingly, it should finalise the renewable energy policy for the State.
13. **Street Lights switching 'on' and 'off'**
ED-Goa is directed to make arrangements to Install electronic 'Timer Switches' for Streetlight installations for switching 'on' and 'off' at the required timings.
14. **Business Plan for MYT Control Period**
As elaborated in Para 1.9 of this Tariff Order, the details in the Business Plan submitted by the utility are insufficient. The supporting data such as, Scheme-wise cost benefit analysis, financing plan, loss reduction trajectory have not been adequately submitted. In view of the same the Commission is constrained to defer the implementation of Multi Year Tariff and concomitant business plan. The Petitioner is therefore directed to submit the revised Business Plan for the period FY 2016-17 to FY 2018-19, along with requisite detail as provided in JERC (Multi Year Tariff) Regulations, 2014, latest by 31st July, 2015. **No further extension will be given as the MYT Petition would be required to be prepared only after approval of the Business Plan. The MYT Petition submission deadline remains 30th November.**

8. Tariff Philosophy and Category-wise Tariffs for FY 2015-16

8.1 Preamble

The Commission in determining the revenue requirement and retail supply tariff for the Financial Year 2015-16 has been guided by the provisions of the Electricity Act, 2003 and the Tariff Policy. Section 61 of the Act lays down the broad principles, which shall guide determination of retail tariff.

In view of the above, the tariff needs to be designed in such a way that cross subsidy between different categories of consumers is progressively brought within $\pm 20\%$ of average cost of supply and that even for BPL category consumers, tariff rates are close to 50% of the average cost of supply. Commission has taken a considerate view in this regard balancing the interest of the utility and the consumer, thus compensating the department with additional revenue and providing a reasonable hike in consumer's tariff.

Accordingly, the Commission has designed the tariff for different categories of consumers as brought out subsequently.

8.2 Revenue Gap for FY 2015-16 and Recovery

In its ARR Petition for FY 2015-16, the Petitioner projected a revenue gap for FY 2015-16 of Rs. 929.49 Cr at existing tariffs including the gap of Rs. 415.84 Cr in the review of FY 2014-15. The Petitioner in its submission of the 'Proposal to meet ARR for FY 2015-16 has submitted that the revenue gap of Rs. 284.22 Cr for FY 2013-14 is not being claimed in the Petition as financial statements are yet to be prepared. The Government of Goa in its letter No. 1/14/2011-Fin(Bud.)/Government of Goa, dated 03.02.2014 had stated that the Government of Goa has proposed to raise the tariff for certain categories of consumers, during Financial Year 2014-15 and has decided to provide adequate budgetary support to meet the deficit as may be approved by the Commission during the process of finalising the ARR and tariff Petition for FY 2014-15. In view of the commitment to provide adequate budgetary support for FY 2014-15, the gap of Rs. 212.48 Cr arrived by the Commission under Review of FY 2014-15 has been adjusted against budgetary support from the Government.

The Petitioner in its ARR and Tariff petition for FY 2015-16, has proposed a tariff revision plan, through which it is proposed to recover a part of the projected revenue gap of Rs. 929.49 Crore at existing tariff for FY 2015-16. The Petitioner submitted that such a large revenue gap, if required to be met from tariff increase alone will lead to shock to the consumers. To avoid tariff shock to the consumers, ED-Goa proposes to meet the above revenue gap for FY 2015-16 partially through tariff increase and the balance is to be left as unmet demand and treated as Regulatory Asset.

As per the proposal for Tariff Increase, Rs. 224.07 Crore of the revenue gap (19% of total gap) would be met from tariff increase and balance amount of Rs. 705.41 Crore would be left as unmet revenue gap to be covered as Regulatory Asset. The regulatory asset will be recovered in the next 2 to 3 years. The above tariff proposal means an average tariff hike of 19% from existing levels.

As elaborated in Chapter 5 & 6 of this Order, the Commission has projected a net revenue requirement of Rs. 1359.92 Crore in FY 2014-15 and net revenue requirement of Rs. 1323.73 Crore in FY 2015-16 respectively,

The Commission has computed the revenue from existing tariffs by considering the revised projection of category wise sales as approved by the Commission in this Order, and the category wise tariffs at the existing tariff.

In order to recover the revenue gap of Rs. 185.43 Cr for FY 2015-16, the average tariffs have to be increased by over 14.00%. The Commission is mandated to protect the interest of the consumers and to move the tariff towards the average cost of supply. The Commission has therefore taken a considerate view in this regard.

8.3 *Tariff Philosophy and Structure*

8.3.1 *Rationalization of Tariff Categories*

Petitioner's submission

1. Tariff Rationalisation

LT Motive Power, LT Ice Mfg, LT Public Water Works are merged into one single category i.e. LT Industry. Similarly, HT-Mixed, HT-Industrial, HT- Hotel Industries, HT-Ice Manufacturing, EHTI-Industrial, HT Public Water Works and HT-IT High Tech Industries are merged into one single category i.e. HT Industrial. New categories such as HT-Domestic and HT-Commercial are proposed considering the need as per developments in the State. LT Temporary is further categorised into Domestic/ /Religious and Commercial purposes.

ED-Goa has also revised/rationalised the slabs in LT & HT categories. The range of consumption slabs is minimised to cover benefit to low end consumption categories such as LT Domestic, LT Commercial in the slab of 0 – 100 units. The number of slabs have been rationalised to 2 or 3 slabs in LT/ HT except for LT Domestic which has 4 slabs.

2. Changes in Applicability Clauses

ED-Goa has modified the applicability clauses in some of the categories for clarity and better implementation. The changes proposed in the applicability are discussed in detail in the LT & HT Tariff Schedule.

3. Time of Day (TOD) Tariff

Time of Day (TOD) is proposed to be made "Compulsory" for all HT/EHT Consumers and "Optional" for LT Commercial & LT Industry (currently optional for HT/ EHT consumers).

ED-Goa has extended the evening peak hours range from 6 pm to 11 pm (earlier 6 pm to 10 pm).

4. Fixed Charges Payment vs Fixed Charges Recovery

ED-Goa submitted that out of the total ARR expenses, certain expenditure are fixed in nature and need to be incurred irrespective of any distribution/retail business undertaken by it. The Petitioner also has similar type of fixed expenses and ideally these fixed cost expenses should be recovered by way of MMC and combination of Fixed and Demand Charges.

5. Monthly Minimum Charges

Monthly Minimum Charges (MMC) are proposed for LT Domestic, LT Domestic Mixed and LT Commercial categories which would address the issues of locked premises, faulty meter readings etc.

MMC is intended to recover the fixed cost component for the investment made on infrastructure and that does not have any correlation with the energy consumption charges.

ED-Goa submitted that MMC is only levied in case the consumer is unable to reach the MMC level at the prevailing tariff.

8.3.2 Tariff Proposal

Petitioner's submission

The Petitioner has proposed the tariff increase for different categories affecting an aggregated increase of about 19%. The category-wise existing tariff and proposed tariff by the Petitioner are as under:

Table 8.1: Existing and Proposed Tariff for FY 2015-16 as proposed by the Petitioner

Category/Consumption Slab	Existing Tariff		Category/ /Consumption Slab	Proposed Tariff	
	Fixed Charges (Rs.)	Energy Charges (Rs./Unit)		Fixed Charges (Rs.)	Energy Charges (Rs./Unit)
Low Tension Supply			Low Tension Supply		
Tariff LTD/Domestic and Non - Commercial			Tariff LTD/ /Domestic		
First 60 Units	10.00	1.20	0-100 Units	Single Phase- Rs. 20/Month Three Phase- Rs. 45/Month	1.40
61 - 250 Units	15.00	1.70	101-200 Units		2.00
251 Units - 500 Units	25.00	2.75	201-400 Units		3.20
Above 500 Units	35.00	3.20	Above 400 Units		3.70
Tariff LTD/Low Income Group	27.50		Tariff LTLIG/Low Income Group	30	
Tariff LTD/Domestic Mixed			Tariff LTDM/Domestic Mixed		
First 400 Units	30.00	2.90	First 400 Units	Single Phase- Rs. 45/Month Three Phase- Rs. 65/Month	3.35
Above 400 Units	40.00	4.00	Above 400 Units		4.60
Tariff LTC/Commercial			Tariff LTC/ /Commercial		
First 100 Units	30.00	3.15	0-200 Units	0-20kW-Rs 50/Conn/ Month	4.00
100 Units - 1000 Units	40.00	4.00	201-400 units	Above 20kW- 70kW- Rs. 50/Conn/ Month +	4.60
Above 1000 Units	60.00	4.50	Above 400 Units		5.00

OFFICIAL GAZETTE — GOVT. OF GOA
(EXTRAORDINARY No. 2)

SERIES I No. 4

24TH APRIL, 2015

Category/Consumption Slab	Existing Tariff		Category/ /Consumption Slab	Proposed Tariff	
	Fixed Charges (Rs.)	Energy Charges (Rs./Unit)		Fixed Charges (Rs.)	Energy Charges (Rs./Unit)
				Additional Rs. 55/kW for every kW increase above 20kW	
Tariff LTP/Motive Power			Tariff LTP/Motive Power		
Connected Load Upto 50 HP	25.00	2.60	Upto 50HP/kW Above 50HP/kW	30 30	3.20 3.70
Connected Load Above 50 HP	25.00	3.20			
Tariff LTP/Ice Manufacturing	25.00	3.20			
Tariff-LT PWW/Public Water Works	25.00	2.50			
Tariff-LTP/Mixed (Hotel Industries)	25.00	4.00	Tariff-LTP/Mixed (Hotel Industries)	30	4.60
Tariff-LTAG/Agriculture	10.00	1.20	Tariff-LTAG/Agriculture	12	1.40
Tariff-LTPL/Public Lighting	35.00	3.60	Tariff-LTPL/Public Lighting	40	4.00
Tariff-LT/Temporary	Rs. 50 per kW per Month or part thereof subject to a minimum of Rs. 300/- per connection per month or part thereof.	7.50	Tariff-LTTS/ /Temporary (Domestic)	Rs 60 per kW per Month or part thereof subject to a minimum of Rs. 300/- per connection per month or part thereof.	7.00
			Tariff- LT/ /Temporary (Commercial)	Rs 100 per kVA per Month or part thereof subject to a minimum of Rs. 500/- per connection per month or part thereof.	10.00

OFFICIAL GAZETTE — GOVT. OF GOA
(EXTRAORDINARY No. 2)

SERIES I No. 4

24TH APRIL, 2015

Category/Consumption Slab	Existing Tariff		Category/ /Consumption Slab	Proposed Tariff	
	Fixed Charges (Rs.)	Energy Charges (Rs./Unit)		Fixed Charges (Rs.)	Energy Charges (Rs./Unit)
High Tension Supply			High Tension Supply		
Tariff HT-Mixed	Rs. 200 /kVA/ /Month	3.15	11/33 KV, 110 KV	Rs. 250 /kVA/Month, Rs. 250 /kVA/Month	4.00, 3.90
Tariff HTI/Industrial	Rs. 200 /Kva/ /Month	3.30			
EHTI/Industrial	Rs. 230 /Kva/ /Month	3.50			
H.T. PW/Public Water Supply and Sewage	Rs. 200 /Kva/ /Month	3.35			
Tariff HT-Industries (IT High Tech).	Rs. 200 /Kva/ /Month	3.20			
Tariff HT-Industries (ICE).	Rs. 200 /Kva/ /Month	3.00			
H.T.Industrial (Ferro Metallurgical/ Steel Melting/ Power Intensive)			H.T.Industrial (Ferro Metallurgical/ /Steel Melting/Power Intensive)		
For all units at 11kV/33kV	Rs. 275 /Kva/ /Month	3.30	For all units at 11kV/33kV	Rs. 325 /Kva/Month	4.00
Tariff-HTAG/Agriculture	Rs. 30/ /Kva/ /Month	1.30	Tariff-HTAG/Agriculture	Rs. 35 /Kva/Month	1.50
H.T. MES/Defense Establishments	Rs. 150 /Kva/ /Month	3.30	H.T. MES/Defense Establishments	Rs. 175 /Kva/Month	3.80
LTH/ Hoardings/Sign Boards	Rs. 50 per kVA per Month of part thereof	6.00	LTH/Hoardings/ /Sign Boards	Rs. 60 per kW per Month of part thereof	7.00
HTTS/Temporary	Rs. 100/ kVA/ /Month	7.50	HTTS/Temporary	Rs. 120 /kVA/Month	10.00
HTD/Domestic (New)	-	-	HTD/Domestic	Rs. 150 /Kva/Month	4.50

Commission's Analysis

As mentioned in the above paragraphs, ED-Goa has proposed many changes in Tariff Structures, design, applicability, general conditions etc., The Commission noted that not many objections/suggestions have been received from the stakeholder on the above proposed changes. Even though the petition was kept in the website of the Petitioner, there were no strong objections by the consumers/stakeholders. The Commission therefore accepts the proposed changes in Tariff Structure by the Petitioner and approves the same in this Tariff Order.

The Commission has determined the retail tariff for FY 2015-16 keeping in view the guiding principles as stated in the Electricity Act, 2003 and Tariff Policy, the suggestions/objections of the stakeholders in this regard and the petitioner's submission as discussed in Chapter 4 of this Order.

Further keeping in view the relevant directions given by the Hon'ble APTEL in the judgment in O.P. No. 1 of 2011 as mentioned below. Commission has taken a decision in this regard.

Directions given by the Hon'ble APTEL in the Judgment in O.P. no. 1 of 2011:

- 1) *Every State Commission has to ensure that Annual Performance Review, true-up of past expenses and Annual Revenue Requirement and tariff determination is conducted year to year basis as per the time schedule specified in the Regulations.*
- 2) *It should be the endeavour of every State Commission to ensure that the tariff for the financial year is decided before 1st April of the tariff year. For example, the ARR & tariff for the financial year 2011-12 should be decided before 1st April, 2011. The State Commission could consider making the tariff applicable only till the end of the financial year so that the licensees remain vigilant to follow the time schedule for filing of the application for determination of ARR/tariff.*
- 3) *In the event of delay in filing of the ARR, truing-up and Annual Performance Review, one month beyond the scheduled date of submission of the petition, the State Commission must initiate suo-moto proceedings for tariff determination in accordance with Section 64 of the Act read with clause 8.1 (7) of the Tariff Policy.*
- 4) *In determination of ARR/tariff, the revenue gaps ought not to be left and Regulatory Asset should not be created as a matter of course except where it is justifiable, in accordance with the Tariff Policy and the Regulations. The recovery of the Regulatory Asset should be time bound and within a period not exceeding three years at the most and preferably within Control Period. Carrying cost of the Regulatory Asset should be allowed to the utilities in the ARR of the year in which the Regulatory Assets are created to avoid problem of cash flow to the distribution licensee.*
- 5) *Truing up should be carried out regularly and preferably every year. For example, truing up for the financial year 2009-10 should be carried out along with the ARR and tariff determination for the financial year 2011-12.*
- 6) *Fuel and Power Purchase cost is a major expense of the distribution Company which is uncontrollable. Every State Commission must have in place a mechanism for Fuel and Power Purchase cost in terms of Section 62 (4) of the Act. The Fuel and Power Purchase cost adjustment should preferably be on monthly basis on the lines of the Central Commission's Regulations for the generating companies but in no case exceeding a quarter. Any State Commission which does not already have such formula/mechanism in place must within 6 months of the date of this order must put in place such formula/mechanism.*

As submitted by the Petitioner, to maintain reliable distribution network, to provide a seamless supply of electricity and to cover the revenue gap the tariff hike is necessitated. Historically, in Goa there has been a gap between the actual cost of supply and the revenue realized. This gap so far has been borne by the Government of Goa.

The Commission has therefore considered an average hike of 14.00% as reasonable and appropriate in the interest of the consumers and the Electricity Department of Goa.

The Commission in this tariff order has rationalised the tariff structure of some of the the consumer categories. The Commission has made the following tariff changes in the tariff structure.

- LT Motive power, LT Ice Manufacturing, LT Public Water Works are merged into one single category i.e., LT Industry.
- HT Mixed, HT Industrial, HT Hotel Industries, HT Ice Manufacturing, EHTI-Industrial, HT Public Water Works, HT-IT High Tech Industries are merged into one single category i.e., HT Industrial
- New categories such as HT Domestic and HT Commercial are proposed considering the need as per the development in the state.
- LT Temporary is further categorised into domestic/religious and commercial purposes.
- The slabs in respect of LT and HT categories are also rationalised to benefit low end consumption categories such as LT-Domestic, LT-Commercial in the slab of 0-100 units. The number of slabs have been rationalised to 2 or 3 slabs in LT/HT except for LT-Domestic which has four slabs.

The tariff approved by the Commission is shown in the table below:

Table 8.2: Commission's Approved Tariff for FY 2015-16

Sl. No	Category of Consumer	Revised Tariff	
		Fixed Charges (Rs)	Energy Charges (Ps/Unit)
A	Low Tension Supply		
1(a)	Tariff LTD/Domestic		
	0-100 units	20.00	1.30
	101-200 units	20.00	1.90
	201-400 units	45.00	3.10
	Above 400 units	45.00	3.60
1(b)	Tariff LTLIG/Low Income Group	30.00	-
1(C)	Tariff LTDM/Domestic Mixed		
	First 400 Units	45.00	3.25
	Above 400 units	65.00	4.50
2	Tariff- LTC/Commercial		
2(a)	0-20KW Commercial consumers		
	0-200 Units	50.00	3.90
	201-400 units	50.00	4.30
	Above 400 units	50.00	4.70

Sl. No	Category of Consumer	Revised Tariff	
		Fixed Charges (Rs)	Energy Charges (Ps/Unit)
2(b)	>20-70KW Commercial consumers	55.00	
	0-200 Units		3.90
	201-400 units		4.30
	Above 400 units		4.70
2(C)	>70 KW Commercial consumers		
	0-200 Units		
	201-400 units		
	401-800 units		
	Above 800 Units		
3	Tariff-LTI/Industry		
	0-500 Units	30.00	3.10
	Above 500 Units	30.00	3.50
4	Tariff-LTP/Mixed (Hotel Industries)	30.00	4.50
5	Tariff-LTAG/ Agriculture	12.00	1.30
6	Tariff-LTPL/ Public Lighting	40.00	3.90
7	Tariff-LTH/ Hoardings & Signboards	60.00	6.90
8	Tariff-LTTS/ Temporary Supply		
	Temporary- Domestic	60.00	7.00
	Temporary- Commercial	100.00	9.90
B	High Tension Supply		
9	Tariff HTI/Industrial		
	Connected at 11/33Kv	250.00	3.90
	Connected at 110Kv	250.00	3.80
10	Tariff HTFS Industrial (Ferro Mettallurgical/ Steel Melting/ Power Intensive/ Steel Rolling)	325.00	3.80
11	Tariff - HTC/Commercial	250.00	4.40
12	Tariff-HTAG/ Agriculture	35.00	1.40
13	Tariff - HTD/ Domestic	150.00	4.40
14	Tariff- HTMES/Defense Establishments	175.00	3.70
15	Tariff-HTTS/ Temporary Supply	120.00	9.90

8.4 Average Cost of Supply

The Commission observes that the tariff being charged to most of the categories of consumers is below average cost of supply. The Commission has attempted to reduce the cross-subsidy in the consumer categories in this order, by rationalizing the tariff for subsidized categories and suitably adjusting the tariff for subsidizing categories,

vis-à-vis the prevailing average cost of supply, while at the same time, trying to ensure that there is no tariff shock to any consumer category.

Table 8.3: Average revenue as percentage of ACOS at Existing Tariff for FY 2015-16

Sl. No.	Category/Consumption Slab	Revenue at Existing Tariff		
		Average Realisation	ACoS	% of ACoS
	Low Tension Supply	2.60	3.52	74%
1	Tariff LTD/Domestic	1.93	3.52	55%
2	Tariff LTD/Low Income Group	1.91	3.52	54%
3	Tariff LTD/Domestic Mixed	2.74	3.52	78%
4	Tariff LTC/Commercial	3.76	3.52	107%
5	Tariff LTP/Motive Power	3.38	3.52	96%
6	Tariff-LTP/Mixed (Hotel Industries)	4.27	3.52	121%
7	Tariff LTP/Ice Manufacturing	3.32	3.52	94%
8	Tariff-LTAG/Agriculture	1.49	3.52	42%
9	Tariff-LTPL/Public Lighting	3.70	3.52	105%
10	Tariff-LT PWW/Public Water Works	2.78	3.52	79%
			3.52	0%
	High Tension Supply	4.09	3.52	116%
11	Tariff HTI/Industrial	4.23	3.52	120%
12	H. T. Industrial (Ferro Metallurgical/Steel Melting/ Power Intensive)	3.94	3.52	112%
13	Tariff-HTAG/Agriculture	1.80	3.52	51%
14	H.T. MES/Defense Establishments	3.77	3.52	107%
15	Tariff- HTC/Commercial		3.52	0%
16	Tariff- HTD/Domestic		3.52	0%
17	Tariff HT-Industries (IT High Tech).	3.96	3.52	113%
	Temporary Supply	7.61	3.52	216%
18	Tariff-LTTS/Temporary	7.62	3.52	216%
19	Tariff-HTTS/Temporary		3.52	0%
20	Hoardings/Sign Boards	7.05	3.52	200%
	Total Demand/Sale Within State/UT	3.52	3.52	100%

Table 8.4: Average revenue as percentage of ACOS at Revised Tariff for FY 2015-16

S.No	Category of Consumer	Revised Tariff		
		Average Realisation	ACoS	% of ACoS
A	Low Tension Supply	3.1	4.09	75.79%
1(a)	Tariff LTD/Domestic	2.23	4.09	54.52%
	0-100 units	1.45	4.09	35.45%
	101-200 units	2.05	4.09	50.12%
	201-400 units	3.44	4.09	84.11%
	Above 400 units	3.94	4.09	96.33%
1(b)	Tariff LTLIG/Low Income Group	2.08	4.09	50.86%
1(C)	Tariff LTDM/Domestic Mixed	3.58	4.09	87.53%
	First 400 Units	3.35	4.09	81.91%
	Above 400 units	4.64	4.09	113.45%
2	Tariff- LTC/Commercial	4.39	4.09	107.33%
2(a)	0-20KW Commercial consumers	4.34	4.09	106.11%
	0-200 Units	4.09	4.09	100.00%
	201-400 units	4.49	4.09	109.78%
	Above 400 units	4.92	4.09	120.29%
2(b)	> 20-70KW Commercial consumers	5.98	4.09	146.21%
	0-200 Units	3.9	4.09	95.35%
	201-400 units	4.3	4.09	105.13%
	Above 400 units	4.7	4.09	114.91%
2(C)	> 70 KW Commercial consumers		4.09	0.00%
	0-200 Units		4.09	0.00%
	201-400 units		4.09	0.00%
	401-800 units		4.09	0.00%
	Above 800 Units		4.09	0.00%
3	Tariff-LTI/Industry	3.64	4.09	89.00%
	0-500 Units	3.15	4.09	77.02%
	Above 500 Units	4.01	4.09	98.04%
4	Tariff-LTP/Mixed (Hotel Industries)	4.83	4.09	118.09%
5	Tariff-LTAG/ Agriculture	1.65	4.09	40.34%
6	Tariff-LTPL/ Public Lighting	4.02	4.09	98.29%
7	Tariff-LTH/ Hoardings & Signboards	8.38	4.09	204.89%
8	Tariff-LTTS/ Temporary Supply	8.04	4.09	196.58%
	Temporary- Domestic	7.14	4.09	174.57%
	Temporary- Commercial	10.13	4.09	247.68%
B	High Tension Supply	4.81	4.09	117.60%
9	Tariff HTI/Industrial	4.94	4.09	120.78%
	Connected at 11/33Kv	4.99	4.09	122.00%
	Connected at 110Kv	4.69	4.09	114.67%
10	Tariff HTFS Industrial (Ferro Metallurgical/ Steel Melting/ Power Intensive/ Steel Rolling)	4.56	4.09	111.49%
11	Tariff - HTC/Commercial	6	4.09	146.70%
12	Tariff-HTAG/ Agriculture	1.98	4.09	48.41%
13	Tariff - HTD/ Domestic		4.09	0.00%
14	Tariff- HTMES/Defence Establishments	4.25	4.09	103.91%
15	Tariff-HTTS/ Temporary Supply		4.09	0.00%
	Total Demand/ Sale within State		4.09	0.00%

8.5 *Tariff Initiatives*

Power Factor Incentive

In order to equate the incentive for better power factor with the surcharge for poor power factor, the Commission decided to revise the incentive for better power factor as follows:

- i. For the LT consumers whose meter is capable of recording average monthly power factor and if the monthly average power factor of a consumer falls below 90% (0.9 lagging), such consumer shall pay a surcharge in addition to his normal tariff @ 0.5% on billed demand and energy charges for each fall of 0.01 in power factor up to 0.7 (lagging). If such consumers maintains power factor more than 95% (0.95 lagging), a power factor incentive @ 0.5% on demand and energy charges shall be given for each increase of 0.01 in power factor above 0.95 (lagging).
- ii. For HT consumers- The monthly average power factor of the supply shall be maintained by the consumer not less than (0.90 lagging). If the monthly average power factor of a consumer falls below 90%. (0.9 lagging), such consumer shall pay a surcharge in addition to this normal tariff @ 1% on billed and energy charges for each fall of 0.01 in power factor up to 0.7 (lagging).

In case the monthly average power factor of the consumer is more than 95% (0.95 lagging), a power factor incentive @ 1% on demand and energy charges shall be given for each increase of 0.01 in power factor above 0.95 (lagging).

8.6 *Estimated Revenue and Surplus/Deficit at revised Tariff for FY 2015-16*

The estimated Revenue at revised tariff for FY 2015-16 works out to be as under.

Table 8.5: Total Revenue estimated by the Commission at revised tariff for FY 15-16

(Rs. Cr)

S. No.	Category of Consumer	Revenue from Revised Tariff					
		Fixed Charges (Rs. Cr)	Energy Charges (Rs. Cr)	Total Charges (Rs. Cr)	ABR	ACoS	% of ACoS
A	Low Tension Supply	30.52	393.14	423.66	3.1	4.09	75.79%
1(a)	Tariff LTD/Domestic	15.30	155.09	170.39	2.23	4.09	54.52%
	0-100 units	3.92	33.15	37.07	1.45	4.09	35.45%
	101-200 units	4.94	61.37	66.31	2.05	4.09	50.12%
	201-400 units	4.64	41.85	46.49	3.44	4.09	84.11%
	Above 400 units	1.79	18.72	20.51	3.94	4.09	96.33%
1(b)	Tariff LTLIG/Low Income Group	0.42	0.00	0.42	2.08	4.09	50.86%
1(C)	Tariff LTDM/Domestic Mixed	0.08	2.74	2.82	3.58	4.09	87.53%
	First 400 Units	0.06	2.10	2.16	3.35	4.09	81.91%
	Above 400 units	0.02	0.64	0.66	4.64	4.09	113.45%
2	Tariff-LTC/Commercial	6.27	116.95	123.22	4.39	4.09	107.33%

S. No.	Category of Consumer	Revenue from Revised Tariff					
		Fixed Charges (Rs. Cr)	Energy Charges (Rs. Cr)	Total Charges (Rs. Cr)	ABR	ACoS	% of ACoS
2(a)	0-20KW Commercial consumers	5.40	112.85	118.25	4.34	4.09	106.11%
	0-200 Units	3.14	63.18	66.32	4.09	4.09	100.00%
	201-400 units	1.10	24.51	25.61	4.49	4.09	109.78%
	Above 400 units	1.16	25.16	26.32	4.92	4.09	120.29%
2(b)	>20-70KW Commercial consumers	0.88	4.10	4.98	5.98	4.09	146.21%
	0-200 Units		0.16	0.16	3.9	4.09	95.35%
	201-400 units		0.18	0.18	4.3	4.09	105.13%
	Above 400 units		3.76	3.76	4.7	4.09	114.91%
2(C)	> 70 KW Commercial consumers	-	-	-	-	4.09	-
	0-200 Units	-	-	-	-	4.09	-
	201-400 units	-	-	-	-	4.09	-
	401-800 units	-	-	-	-	4.09	-
	Above 800 Units	-	-	-	-	4.09	-
3	Tariff-LTI/Industry	6.25	66.83	73.08	3.64	4.09	89.00%
	0-500 Units	0.47	27.28	27.75	3.15	4.09	77.02%
	Above 500 Units	5.79	39.55	45.34	4.01	4.09	98.04%
4	Tariff-LTP/Mixed (Hotel Industries)	0.16	2.25	2.41	4.83	4.09	118.09%
5	Tariff-LTAG/ Agriculture	0.88	3.26	4.14	1.65	4.09	40.34%
6	Tariff-LTPL/ Public Lighting	0.46	15.60	16.06	4.02	4.09	98.29%
7	Tariff-LTH/ Hoardings & Signboards	0.04	0.18	0.22	8.38	4.09	204.89%
8	Tariff-LTTS/ Temporary Supply	0.65	30.25	30.90	8.04	4.09	196.58%
	Temporary-Domestic	0.38	18.83	19.21	7.14	4.09	174.57%
	Temporary-Commercial	0.27	11.41	11.68	10.13	4.09	247.68%
B	High Tension Supply	179.36	719.61	898.97	4.81	4.09	117.60%
9	Tariff HTI/Industrial	131.66	483.69	615.35	4.94	4.09	120.78%
	Connected at 11/33Kv	116.11	417.30	533.41	4.99	4.09	122.00%
	Connected at 110Kv	15.55	66.39	81.94	4.69	4.09	114.67%

S. No.	Category of Consumer	Revenue from Revised Tariff					
		Fixed Charges (Rs. Cr)	Energy Charges (Rs. Cr)	Total Charges (Rs. Cr)	ABR	ACoS	% of ACoS
10	Tariff HTFS Industrial (Ferro Metallurgical/ Steel Melting/ Power Intensive/ Steel Rolling)	43.62	218.88	262.50	4.56	4.09	111.49%
11	Tariff - HTC/Commercial	2.24	6.16	8.40	6	4.09	146.70%
12	Tariff-HTAG/ Agriculture	0.35	0.84	1.19	1.98	4.09	48.41%
13	Tariff - HTD/ Domestic	-	-	-	-	4.09	-
14	Tariff- HTMES/Defence Establishments	1.49	10.03	11.52	4.25	4.09	103.91%
15	Tariff-HTTS/ Temporary Supply			0.00		4.09	0.00%
	Total Demand/ Sale within State	209.87	1112.75	1322.62		4.09	0.00%

The estimated gap/surplus after incorporating the impact of revised tariff for FY 2015 16 from 1st April, 2015 is as under:

Table 8.6: Estimation of ARR Gap/Surplus at revised tariff for FY 2015-16

(Rs. Cr)

Sl. No.	Particulars	Approved by the Commission (FY 2015-16)
1	Net Revenue Requirement	1323.73
2	Gap for the previous year	0.00
3	Total Revenue Requirement (1+2)	1323.73
4	Revenue from existing tariff	1138.30
5	Total Gap (3 -4)	185.43
6	Revenue at revised tariff (applicable from 1st April 2015)	1322.62
7	Net Gap/(Surplus) (3-6)	1.11

8.7 Applicability of Tariffs

The Tariffs will be applicable from April 1, 2015 and up to the issuance of the next order.

9. Determination of Open Access Charges**Determination of Open Access Charges****Petitioner's Submission**

ED-Goa submits that as per Regulation 33 of MYT Regulations 2014 the allocation policy has been proposed in the Business Plan. The summary of the allocation statement based on which ARR/ MYT has been segregated into wheeling and retail supply business as given in the table below:

Table 9.1: Allocation Statement Wheeling & Retail Supply

S. No.	Cost Elements	Wheeling %	Retail Supply %
1	Power Purchase Cost & Transmission	30%	70%
2	Employee Expenses	90%	10%
3	Administrative and General Expenses	75%	25%
4	Repairs and Maintenance Expenses	95%	5%
5	Depreciation	95%	5%
6	Interest on Loan	95%	5%
7	Interest on Working Capital	95%	5%
8	Return on Equity	95%	5%
9	DSM Expenses	25%	75%
10	Interest on Security Deposit	10%	90%
11	Non-Tariff Income	75%	25%

In the Petition submitted that it has computed the open access charges as per the methodology adopted in previous tariff order which is shown in the tables below:

Table 9.2: Segregation of ARR into Wheeling & Retail Supply for Control Period.

Sl. No.	Particulars	FY 2015-16		FY 2016-17		FY 2017-18	
		Wheeling	Retail Supply	Wheeling	Retail Supply	Wheeling	Retail Supply
1	Cost of power purchase	344.96	804.9	370.13	863.63	395.66	923.21
2	Employee costs	209.21	23.25	213.05	23.67	217.14	24.13
3	Administration and General expenses	12.21	4.07	12.43	4.14	12.66	4.22
4	Repairs and Maintenance Expenses	35.44	1.87	50.16	2.64	75.3	3.96
5	Depreciation	60.03	3.16	76.66	4.03	113.58	5.98
6	Interest on Loan & Finance charges	83.79	4.41	101.66	5.35	148	7.79
7	Interest on Working Capital	4.06	0.21	5.11	0.27	6.31	0.33
8	Return on NFA /Equity	54.58	2.87	69.69	3.67	103.25	5.43
9	CGRF and DSM Expenses	-	-	-	-	-	-

Sl. No.	Particulars	FY 2015-16		FY 2016-17		FY 2017-18	
		Wheeling	Retail Supply	Wheeling	Retail Supply	Wheeling	Retail Supply
10	Interest on Security Deposit	0.83	7.44	0.84	7.53	0.85	7.61
11	Total Revenue Requirement	805.09	852.17	899.74	914.94	1,072.74	982.67
12	Less: Non Tariff Income	4.99	1.66	4.99	1.66	4.99	1.66
13	Net Revenue Requirement	800.1	850.51	894.74	913.28	1,067.75	981

ED-Goa submits that as per Regulation 36 category wise cost of supply needs to be computed for facilitating determination of tariff and for gradual reduction of cross subsidy. Cost of supply study also facilitates determination of cross subsidy surcharge. However the cost of supply methodology suggested by APTEL is based on voltage wise. ED-Goa submits that study on voltage wise cost of supply is under process and shall be submitted to Hon'ble Commission by end of February 2015.

In absence of relevant data for computation of open access charges, ED-Goa requests Hon'ble Commission to consider the same approach as approved in Tariff Order FY 2014-15.

Accordingly, ED-Goa has computed open access charges considering the following wheeling losses for HT & EHT and allocation % for wheeling cost between HT & LT as approved in Tariff Order FY 2014-15.

- i. Wheeling Loss at HT & EHT Level – 3.636% (balance losses attributable to LT Level)
- ii. Wheeling Cost allocation for HT & EHT : LT = 53: 47

Table 9.3: Wheeling Charges and Losses for FY 2015-16

Sl. No.	Particulars	UoM	Amount
1	Total Input	MU	3,738.79
2	Input for HT & EHT Sales	MU	1,970.02
3	Losses for HT & EHT	%	3.64%
4	Losses	MU	71.63
5	Sales at 11 kV & above	MU	1,898.39
6	Input for LT	MU	1,768.77
7	Losses at LT Level	MU	25.00%
8	Losses	%	442.45
9	Sales at LT Level	MU	1,326.31
10	Balance	MU	-

Based on above and the projections for Sales and Wheeling ARR for FY 2015-16, the wheeling charges and losses for HT/EHT & LT are given in the Table below:

Table 9.4: Wheeling Charges and Losses for FY 2015-16

Particulars	UoM		FY 2015-16
Wheeling Cost	Rs.Crs	a	800.10
Wheeling Cost at EHT & HT	Rs.Crs	b= ax53%	426.00
Wheeling Cost at LT	Rs.Crs	c= ax47%	374.09
Energy Input at Discom Periphery	%	d	3,738.79
Wheeling Charge at EHT & HT Level	Rs/kWh	e=b/dx10	1.14
EHT and HT Losses	%	f	3.64%
EHT and HT Losses	MU	g	135.94
Sales at EHT and HT Level	MU	h	1,898.39
Energy Input at LT	MU	i=d-g-h	1,704.45
Wheeling Charge at LT Level	Rs/kWh	j=c/ix10	2.19
Sales at LT Level	MU	k	1,326.31
LT Losses	MU	l=i-k	378.14
Total Losses	MU	m=g+l	514.08
	%	n	13.75%

The open access consumers are liable to pay cross subsidy surcharge to compensate the distribution utility for any loss of revenue due to shifting of its consumer to the open access system. The cross subsidy surcharge for open access consumers for the year 2015-16 is calculated as per the following recommended formula in the Tariff Policy.

$$S = T - [C (1+L/100) + D] \text{ Where,}$$

S = Surcharge

T = Tariff payable by the relevant category of consumers

C = Weighted average cost of power purchase of top 5% at the margin excluding liquid fuel based generation and renewable power.

D = Wheeling charges (Transmission and Distribution)

L = System losses for the applicable voltage level, expressed as a percentage.

The computation of top 5% power for FY 2015-16 is given below:

Table 9.5: Computation of Top 5% Power for FY 2015-16

S. No.	Source	Ex-bus Purchase (MU)	Reasons	VC (Ps/Unit)	Total Cost (Rs. Cr)	Total Cost (Ps/Unit)	Top 5% Energy (MU)	Cost of Top 5% Energy (Rs Cr)
1	Renewable Energy Sources	27.00	Must Run	857.04	23.14	857.04		-
2	Mouda	88.22		388.90	49.85	565.01	88.22	49.85
3	Barh-II	89.44		385.36	49.14	549.40	89.44	49.14
4	Traders / Open	77.15		369.81	28.53	369.81	19.20	7.10
5	KGPP	59.15		297.35	25.90	437.88		-
6	TAPS Unit 3 and 4	80.86	Must Run	287.88	23.28	287.88		-
7	GGPP	63.59		284.59	28.23	443.91		-
8	Goa Energy Private	124.27		240.00	29.82	240.00		-
9	RSTPS	731.18		240.08	220.65	301.78		-

S. No.	Source	Ex-bus Purchase (MU)	Reasons	VC (Ps/Unit)	Total Cost (Rs. Cr)	Total Cost (Ps/Unit)	Top 5% Energy (MU)	Cost of Top 5% Energy (Rs Cr)
10	Goa Sponge & Power Ltd	6.68		240.00	1.60	240.00		-
11	Sesa Goa Limited	55.00		240.00	13.20	240.00		-
12	KAPS Unit 3 and 4	61.18	Must Run	237.71	14.54	237.71	-	-
13	KAPS Unit 1 and 2	116.17	Must Run	237.71	27.61	237.71		-
14	VSTPS – I	274.69		177.58	67.46	245.60		-
15	VSTPS – II	99.51		168.26	22.49	226.02		-
16	VSTPS –III	84.55		167.93	22.10	261.36		-
17	VSTPS –IV	80.99		167.91	26.90	332.20		-
18	SIPAT- I	169.36		136.82	43.45	256.54		-
19	SIPAT- II	80.60		133.79	20.23	250.97		-
20	KSTPS	1,531.04		92.17	231.57	151.25		-
21	KSTPS-III	36.66		90.91	8.49	231.48		-
22	Total	3,937.26			978.18		196.86	106.09
							TRUE	
Top 5% Volume of Energy		196.86	Must Run and Liquid Fuel based not considered while determining Top 5% Power Purchase Cost.					
Cost of Top 5% Energy		106.09						
Per Unit Cost		5.3888						

The computation of 'C' and Cross Subsidy Surcharge for important consumer categories is provided in the table below:

Table 9.6: Computation of Total Cost for FY 2015-16

Calculation of Total Cost - Based on ARR FY 2014-15					
	Particulars	Unit	Upto 33 kV	11 kV	LT Level
C	Weighted average cost of power purchase of 5% at the margin excluding UI and renewable power	Rs./Unit	5.39	5.39	5.39
D	Wheeling Charges	Rs./Unit	1.14	1.14	2.19
L	System Losses for the applicable voltage level	%	3.64%	3.64%	25.01%
Total	[C (1 + L / 100) + D]	Rs./Unit	6.72	6.72	8.93

Table 9.7: Computation of Cross Subsidy Surcharge for FY 2015-16

Major Consumer Categories		Proposed Tariff (Rs/kWh)	Surcharge upto 33 kV (Rs/kWh)	Surcharge at 11 kV (Rs/kWh)	Surcharge at LT Level (Rs/kWh)
1	Tariff HTI/Industrial	5.018	-	-	-
2	Tariff HTFS/ HT Industrial (Ferro Metallurgical/ Steel Melting/ Power Intensive/Steel Rolling)	4.756	-	-	-
3	Tariff LTC/Commercial (above 20 kW)	5.984	-	-	-
4	Tariff LTI/Industrial	3.851	-	-	-

The Hon'ble Commission is requested to consider the above computations and approve appropriate CSS for FY 2015-16.

Commission Analysis:

As mentioned above the Petitioner has submitted the open access charges for Period FY 2015-16.

It can be seen from Petitioner's Submission that the Transmission and Distribution business has not been Segregated and ED-GOA Continues to function as an integrated utility. The Commission in line with the Petitioners Submission and the fact that the expenses of the utility are consolidated has Considered "NIL" transmission charges for the open access consumers for the state.

Allocation Matrix:

The Commission has considered it Prudent to consider the allocation matrix for bifurcation of wheeling and retail ARR as proposed in the "staff paper on operationilasion of open Access (OA) in the State of GOA and the UTS" in September 2012. The determination of input energy for network usage percentage and the allocation between wheeling and retail supply business for FY 2015-16 as per the ARR approved in the order is provided in in the Tables below:

**Table 9.8: Determination of input energy for network usage percentage
Approved by the Commission**

Sl. No.	Particulars	Units	Formula	FY 2015-16
1	Total Input	MU	A	3653
2	Input for HT & EHT	MU	$B = G / (1 - E)$	1938
3	% of Total Input	%	$C = B / A$	53.05%
4	Losses for HT & EHT (%of Total Input	%	$D = F / A$	1.92%
5	Losses for HT & EHT (%of HT Input)	%	$E = F / B$	3.636
6	Losses	MU	$F = B - G$	70
7	Sales at 11KV & Above	MU	G	1868
8	Input for LT	MU	$H = A - B$	1715
9	% of Total Input	%	$I = H / A$	46.95%
10	Losses at LT level % of LT Input	%	$J = K / H$	22.62%
11	Losses	MU	$K = H - L$	388
12	Sales at 11KV & below	MU	L	1327

Table 9.9: Segregation of ARR into wheeling and retail supply for FY 2015-16

Sl. No.	Particulars	Allocation (%)		Allocation FY 2015-16		
		Wheeling	Supply	Wheeling	Supply	Total
1	Cost of Fuel	0%	100%	0.00	0.00	0.00
2	Cost of Power purchase for full year	0%	100%	0.00	1048.34	1048.34
2A	Provision for RPO Compliance	0%	100%	0.00	13.37	13.37
3	Employee costs	70%	30%	113.07	48.46	161.53
4	Administration and General Expenses	90%	10%	9.03	1.00	10.03
5	Repair and Maintenance Expenses	50%	50%	6.34	6.34	12.68
6	Depreciation	90%	10%	34.93	3.88	38.81
7	Interest and Finance charges	90%	10%	30.14	3.35	33.49
8	Interest and Security Deposit	0%	100%	0.00	7.43	7.43
9	Interest on Working Capital	22%	78%	0.51	1.83	2.34

Sl. No.	Particulars	Allocation (%)		Allocation FY 2015-16		
		Wheeling	Supply	Wheeling	Supply	Total
10	Return on NFA/Equity	90%	10%	14.24	1.58	15.82
11	Total Revenue Requirement			208.26	1135.58	1343.84
12	Less: Non Tariff Income	0%	100%	0.00	6.74	6.74
13	Less: Revenue from Surplus Power Sale/UI	0%	100%	0.00	0.00	0.00
14	Less: Revenue from short term sale	0%	100%	0.00	0.00	0.00
15	Net Revenue Requirement (13-14-15-16)			208.26	1128.84	1337.10

Table 9.10: Wheeling Charges and losses approved for FY 2015-16

Particulars	UoM	Formula	FY 2015-16
Wheeling Cost	Rs. Cr	A	208.26
Wheeling Cost at EHT and HT	Rs. Cr	B=A*53%	110.38
Wheeling Cost at LT	Rs. Cr	C=A*47%	97.88
Energy Input at DISCOM	MU	D	3,653
Energy Input at EHT and HT Level	MU	E=I/(1-G)	1938.56
Wheeling Charge at EHT and HT Level	Rs./kWH	F=(B/E)*10	0.57
EHT and HT Losses	%	G	3.64%
EHT and HT Losses	MU	H=E-I	70.56
Sales at EHT and HT Level	MU	I	1868
Energy input at LT	MU	J=D-E	1714.71
Wheeling Charge at LT Level	Rs./kWH	K=(C/J)*10	0.57
Sales at LT level	MU	L	1355
LT Losses	%	M=J-L	359.71
LT Losses	MU	(M/J)*100	20.98
Total Losses	MU	N=H+M	430.27
	%	(N/D)*100	11.78

Computation of Cross Subsidy Surcharge:

The open access consumers are liable to pay cross subsidy surcharge to compensate the distribution utility for any loss of revenue due to shifting of its consumers to the open access system. The cross subsidy surcharge for open access consumers for the year 2015-16 is calculated as per the following recommended formula in the Tariff Policy.

$$S = T - [C (1+L/100) + D]$$

Where,

S = Surcharge

T = Tariff payable by the relevant category of consumers

C = Weighted average cost of power purchase of top 5% at the margin excluding liquid fuel based generation and renewable power.

D = Wheeling charges (Transmission and Distribution)

L = System losses for the applicable voltage level, expressed as a percentage.

The computation of top 5% power for FY 2015-16 is given below:

Table 9.11: Computation of Top 5% Power for FY 2015-16 Approved by the Commission

Sl. No.	Source	Ex-bus Purchase (MU)	Reasons	VC (Rs/Unit)	Total Cost (Rs.Cr)	Cost Per Unit	Top 5% Energy (MU)	Cost of Top 5% Energy (Rs Cr)
						(Rs/kWH)		
1	Renewable Energy Sources	27.00	Must Run	6.422	17.34	6.422		
2	Mouda	4.28		3.889	10.19	23.830	4.28	10.19
3	Barh-II	24.44		3.854	24.09	9.856	24.44	24.09
4	Traders / Open Market	77.15		3.698	28.53	3.698	77.15	28.53
5	KGPP	59.26		2.974	25.39	4.285		
6	TAPS Unit 3 and 4	105.68	Must Run	2.879	30.42	2.879		
7	GGPP	33.83		2.846	19.65	5.807		
8	Goa Energy Private Ltd	124.27		2.400	29.82	2.400		
9	RSTPS	640.87		2.401	199.71	3.116	86.07	26.82
10	Goa Sponge & Power LTd	6.68		2.400	1.60	2.400		
11	Sesa Goa Limited	55.00		2.400	13.20	2.400		
12	KAPS Unit 3 and 4	105.08	Must Run	2.377	24.98	2.377		
13	KAPS Unit 1 and 2	109.25	Must Run	2.377	25.97	2.377		
14	VSTPS – I	289.34		1.776	69.44	2.400		
15	VSTPS – II	110.70		1.683	25.35	2.290		
16	VSTPS –III	95.74		1.679	25.84	2.699		
17	VSTPS –IV	93.93		1.679	22.69	2.416		
18	SIPAT- I	198.88		1.368	45.93	2.309		
19	SIPAT- II	87.53		1.338	22.32	2.550		
20	KSTPS	1,545.92		0.922	225.85	1.461		
21	KSTPS-III	43.70		0.909	9.94	2.275		
22	Total	3,838.55			898.26		191.94	89.64
							TRUE	
Top 5% Volume of Energy		191.93	Must Run and Liquid Fuel based not considered while determining Top 5% Power Purchase Cost.					
Cost of Top 5% Energy		89.64						
Per Unit Cost		4.670						

Table 9.12: Calculation of 'T'

Sl. No.	Particulars	FY 2015-16		
		Sales (MU)	Revenue from proposed Tariff (Rs. Crore)	Average Tariff (Rs./kWH)
1	Tariff HTI-Industrial	1245	615.35	4.94
2	HTFS Industrial (Ferro Metallurgical/Steel Melting/Power Intensive/Steel Rolling)	576	262.50	4.55
3	HTC/Commercial	14	8.40	6.00
4	HTAG/Agriculture	6	1.19	1.98
5	HT MES/Defence Establishments	27	11.52	4.25
	Total	1868	898.96	4.81

Table 9.13: Approved computation of Cost for FY 2015-16

	Particulars	Unit	FY 2015-16		
			upto 33kV	upto 11kV	LT Level
C=	Weighted Avg. cost of Power Purchase of Top 5% Energy	Rs/Unit	4.67	4.67	4.67
D=	Wheeling Charges	Rs/Unit	0.57	0.57	0.57
L=	System Losses for the Applicable Voltage Level	%	3.64	3.64	20.98
Total	[C(1+(L/100))+D]	Rs/Unit	5.41	5.41	6.22

Table 9.14: Approved Cross Subsidy Surcharge for FY 2015-16

Particulars	Unit	FY 2015-16
T	Rs/kWH	4.81
C	Rs/kWH	4.67
D	Rs/kWH	0.57
L	%	3.64
[C(1+(L/100))+D]	Rs/kWH	5.410
Cross Subsidy Surcharge 'S' = T-[C(1+(L/100))+D]	Rs/kWH	-0.60

As the value negative, the cross subsidy surcharge for FY 2015-16 may be considered as Nil.

10. Conclusion of Commission's Order

Having considered the Petitions of ED-Goa for approval of Review for FY 2014-15 and Determination of ARR and retail Tariff for FY 2015-16, the Commission approves the Aggregate Revenue Requirement (ARR) and Revised Tariff Schedule for ED-Goa for FY 2015-16.

1. The break-up of the Aggregate Revenue Requirement approved for ED-Goa for FY 2015-16 is given below.

Sl. No.	Particulars	Approved for FY 2015-16
1	Cost of power purchase	1048.34
2	Employee costs	161.53
3	R&M expenses	12.68
4	Administration and General expenses	10.03
5	Depreciation	38.81
6	Interest on Loan & Finance charges	33.49
7	Interest on Working Capital	2.34
8	Interest on Security Deposit	7.43
9	Return on Equity	15.82
10	Total Revenue Requirement	1330.47
11	Less: Non-Tariff Income	6.74
12	Aggregate Revenue Requirement	1323.73
13	Revenue from Retail sales at existing Tariff	1138.30
14	Revenue Gap / (Surplus) at existing Tariff	185.43
15	Additional Revenue due to revised Tariff	184.32
16	Budgetary Support from Government	0.00
17	Net Final Revenue Gap / (Surplus) at existing Tariff	1.11

2. The break-up of the Aggregate Revenue Requirement approved under the Review for ED-Goa for FY 2014-15 is given below:

Sl. No.	Particulars	FY 2014-15
		Approved in Review
1	Cost of Power Purchase	1093.62
2	Employee Costs	152.42
3	R&M Expenses	20.73
4	Administration & General Expenses	9.46
5	Depreciation	25.87
6	Interest and Finance Charges	24.12
7	Interest on Working Capital	1.80
8	Interest on Security Deposit	6.82
9	Return on NFA	11.12
10	Other expenses	0
11	Total Revenue Requirement	1345.96
12	Less : Non-Tariff Income	6.74
13	Less : Revenue from sale of Power- UI Pool	0
14	Add : Provision for RPO Obligation for FY 2014-15	20.70
15	Less : Revenue from sale / Banking of Power	0

Sl. No.	Particulars	FY 2014-15
		Approved in Review
16	Aggregate Revenue Requirement	1359.92
17	Revenue from existing tariff including FPPCA	1147.44
18	Revenue Gap / (Surplus) at existing Tariff	212.48
19	Less: Revenue from revised Tariff	0.00
20	Budgetary support from Government of Goa	212.48
21	Net Balance Revenue Gap	0.00

3. The approved Retail Tariff for FY 2015-16 is as below

Sl. No	Category of Consumer	Revised Tariff		K Factor (Applicable for FY 2015-16)
		Fixed Charge ⁷	Variable Charge ⁸	
A	Low Tension Supply			
1(a)	Tariff LTD/Domestic			
	0-100 units	Single Phase – Rs.20/Month Three Phase– Rs. 45/Month	1.30	0.36
	101-200 units		1.90	0.50
	201-400 units		3.10	0.84
	Above 400 units		3.60	0.96
1(b)	Tariff LTLIG/Low Income Group	30.00	-	0.51
1(C)	Tariff LTDM/Domestic Mixed			0.88
	First 400 Units	Single Phase – Rs.45/Month	3.25	0.82
	Above 400 units	Three Phase– Rs. 65/Month	4.50	1.13
2	Tariff- LTC/Commercial		0.00	1.07
	0-200 Units	0-20 kW – Rs. 50/Conn/ Month Above 20kW-70 kW Rs.50/Conn/month + additional Rs. 55/kW for every kW increase above	3.90	1.00
	201-400 units		4.30	1.10
	Above 400 units		4.70	1.20
3	Tariff-LTI/Industry			0.89
	0-500 Units	30.00	3.10	0.77
	Above 500 Units	30.00	3.50	0.98
4	Tariff-LTP/Mixed (Hotel Industries)	30.00	4.50	1.18
5	Tariff-LTAG/ Agriculture	12.00	1.30	0.40
6	Tariff-LTPL/ Public Lighting	40.00	3.90	0.98
7	Tariff-LTH/ Hoardings & Signboards	60.00	6.90	2.05
8	Tariff-LTTS/ Temporary Supply	0.00	-	1.97
	Temporary- Domestic	60.00	7.00	1.75
	Temporary- Commercial	100.00	9.90	2.48
B	High Tension Supply	0.00	0.00	1.18
9	Tariff HTI/Industrial	0.00	0.00	1.21
	Connected at 11/33Kv	250.00	3.90	1.22
	Connected at 110Kv	250.00	3.80	1.15

Sl. No	Category of Consumer	Revised Tariff		K Factor (Applicable for FY 2015-16)
		Fixed Charge ⁷	Variable Charge ⁸	
10	Tariff HTFS Industrial (Ferro Mettallurgical/ Steel Melting/ Power Intensive/ Steel Rolling)	325.00	3.80	1.11
11	Tariff - HTC/Commercial	250.00	4.40	1.47
12	Tariff-HTAG/ Agriculture	35.00	1.40	0.48
13	Tariff - HTD/ Domestic	150.00	4.40	0.00
14	Tariff- HTMES/Defence Establishments	175.00	3.70	1.04
15	Tariff-HTTS/ Temporary Supply	120.00	9.90	0.00
	Total Demand/ Sale within State	0.00	0.00	1.00

⁷Rs per connection/HP/Kw/KVA on monthly basis as applicable and detailed in the tariff schedule

⁸Rs per kWh

4. The approved tariff shall come in force with effect from 1st April, 2015 and shall remain valid till issuance of the next order. All existing provisions, which are not modified by this order, shall continue to be in force. The licensee shall publish the revised tariff structure and the salient features of tariff within one week in three daily newspapers in the respective local languages of the region, besides English, having wide circulation in their respective areas of supply.

5. The licensee will compute fuel and power procurement cost variations and adjustments shall be made in the consumer bills based on the Fuel & Power Purchase Cost Adjustment (FPPCA) formula/regulations being separately notified by the Commission. For the purpose of calculation using FPPCA formula to be notified by the Commission separately, the approved per unit cost of power purchase (R approved) for use in the FPPCA formula (paisa per unit) is 284 paisa per unit for FY 2015-16.

6. Copy of this order may be sent to Petitioner, CEA and Administration of UT of Goa. It shall be placed on the website of the Commission.

(S. K. Chaturvedi)
Chairman

Certified Copy

(Keerti Tewari)
(Secretary)

Place: Gurgaon
Date: 6th April, 2015

11. General Conditions and Tariff Schedule

General Conditions and Definitions

1. These tariffs are applicable from 1st April, 2015 and shall remain valid till the issuance of next order.
2. The tariffs are exclusive of electricity duty and taxes levied by the Government or other competent authority from time to time which are payable by the consumers in addition to the charges levied as per the tariffs.
3. Unless otherwise agreed to, these tariffs for power supply are applicable for supply at one point only.
4. Unless specifically stated to the contrary the figures of energy charges relate to paise per unit (kWh) charge for energy consumed for the month.
5. If energy supplied for a specific purpose under a particular tariff is used for a different purpose, not contemplated in the contract for supply and/or for which higher tariff is applicable, it will be deemed as unauthorized use of electricity and shall be dealt with for assessment under the provisions of section 126 of the Electricity Act, 2003 & Supply Code Regulation notified by JERC. Provided that
 - (a) if a portion of the domestic premises limited to only one room is used for running small household business having connection under domestic category, such connection shall be billed under domestic category provided that the total monthly consumption of the consumer (including consumption for above mentioned small household business) does not exceed 150 kWh.
 - (b) If either more than one room or only one room having monthly consumption exceeding 150 kWh for consecutive three months is detected in the domestic premises being used for mixed purposes having domestic connection, such connection shall further be billed under commercial category until a separate connection of appropriate tariff is taken for that portion used for non-domestic purpose.
6. If connected load of a domestic category is found to be at variance from the sanctioned/contracted load as a result of replacement of appliances such as lamps, fans, fuses, switches, low voltage domestic appliances, fittings, it shall not fall under section 126 and section 135 of the EA 2003.
7. Fixed charges, wherever applicable, will be charged on pro-rata basis from the date of release of connection. Fixed charges, wherever applicable, will be double as and when bi-monthly billing is carried out, Similarly slabs of energy consumption will also be considered accordingly in case of bi-monthly billing or periodic billing.
8. The consumption for factory lighting/pump house lighting will be billed as per respective main tariff category. A separate energy meter for recording energy consumed towards factory lighting for new installation need not be provided. For the existing installations, till the factory lighting meter's mains are shifted to main meter, the total energy consumption shall be arrived by adding the energy consumption of main energy meter and factory lighting meter.

9. LT Connection is applicable with Sanctioned Load of less than 100 KVA or 90 KW or 120 HP as the case may be and HT Connection is applicable with Contract Demand of 100kVA and above.
10. Supply of power in all cases shall be subject to the execution of Agreement between Electricity Department, Goa and consumers and as per JERC (Electricity Supply Code) Regulation, 2010. The Other Conditions, Definitions etc shall be applicable as per Provisions of Electricity Act, 2003 and various JERC Regulations issued from time to time such as Standards of performance, Supply Code, Distribution Code etc issued from time time.

11. Billing Demand and Billing of extra Demand :

The billing shall be on the maximum demand recorded during the month or 75% of contracted demand whichever is higher. If in any month, the recorded maximum demand of the consumer exceeds its contracted demand, that portion of the demand in excess of the contracted demand shall be billed at double the normal rate. Similarly, energy consumption corresponding to excess demand shall also be billed at double the normal energy rate.

The definition of the Maximum demand would be in accordance with the provisions of the JERC (Electricity Supply Code) Regulations, 2010.

If such over drawl is more than 20% of the contracted demand then the connection shall be disconnected immediately.

Explanation:

Assuming the contract demand as 100 kVA, maximum demand at 120 kVA and total energy consumption as 12000 units, then the consumption corresponding to the contract demand will be 10,000 units ($12000 \times 100/120$) and consumption corresponding to the excess demand will be 2000 units. This excess demand of 20 kVA and excess consumption of 2000 units will be billed at twice the respective normal rate. e.g. in case of HTI/Industrial category, excess demand and consumption will be billed at the rate of Rs. 350 per kVA per month and Rs. 6.60/kWh respectively. Such connection drawing more than 120 kVA shall be disconnected immediately.

12. The adjustment because of Fuel and Power Purchase Cost variation shall be calculated in accordance with FPPCA formula separately notified by the Commission under the Regulation. Such charges shall be recovered/refunded in accordance with the terms and conditions specified in the FPPCA formula.
13. The values of the 'K' factor applicable for the different consumer categories for use in the FPPCA formula shall be as specified in this Tariff Order for FY 2015-16.

14. Power Factor Charges for HT and EHT

- (a) The consumer shall maintain the monthly average power factor of the supply not less than 0.90 (lagging). If the monthly average power factor of (a) consumer falls below 90% (0.9 lagging), such consumer shall pay a surcharge in addition to his normal tariff @ 1% on billed demand and energy charges for each fall of 0.01 in power factor upto 0.7 (lagging).

- (b) In case the monthly average power factor of the consumer is more than 95% (0.95 lagging), a power factor incentive @ 1% on demand and energy charges shall be given for each increase of 0.01 in power factor above 0.95 (lagging)
- (c) If the average power factor falls below 0.70 (lagging) consecutively for 3 months, the licensee reserves the right to disconnect the consumer's service connection without prejudice for the levy of the surcharge.
- (d) The power factor shall be rounded off to two decimal places. For example, 0.944 shall be treated as 0.94 and 0.946 shall be treated as 0.95.
15. For staff quarters, rest/guest houses, street lighting in the colony of a factory which is situated separately from the main factory and when distribution lines, service lines, etc. are permitted to be owned and maintained by the HT consumer owning the factory, there shall be a separate connection and all energy consumed shall be charged under "Tariff LTD/Domestic Mixed".
- 16. Advance Payment Rebate:** If payment is made in advance well before commencement of consumption period for which bill is prepared, a rebate @ 1% per month shall be given on the amount (excluding security deposit, taxes and duties) which remains with the licensee at the end of the month. Such rebate, after adjusting any amount payable to the licensee, shall be credited to the account of the consumer.
- If payment is made in advance along with prior declaration of premises to be closed for a certain period of time, a rebate of 1% per month shall be given on the amount (excluding security deposit, taxes and duties) which remains with the licensee at the end of the month. Such rebate, after adjusting any amount payable to the licensee, shall be credited to the account of the consumer.
- 17. Prompt Payment Rebate:** If payment is made at least 7 days in advance of the due date of payment a rebate for prompt payment @ 0.25 % of the bill amount (excluding taxes and duties) shall be given. Those consumers having arrears shall not be entitled for such rebate and the amount paid will first be used to set off past liabilities.

18. Delayed Payment Charges (DPC):

In case the electricity bills are not paid within the due date mentioned on the bill, delayed payment charges of two percent (2%) (computed on daily basis on outstanding bill from the due date till date of payment) shall be levied on the bill amount. However, if a consumer makes part payment of a bill (in exceptional circumstances, with prior approval of the Chief Electrical Engineer), within the due date, then the delayed payment charges shall be applicable only on the amount which was not paid within the due date.

Such surcharge shall be rounded off to the nearest multiple of one rupee. Amount less than 50 paise shall be ignored and amount of 50 paise or more shall be rounded off to next rupee.

If the consumer fails to pay the energy bill presented to him by the due date the department shall have the right to disconnect the supply after giving 15 days' notice as per provision of the Electricity Act, 2003 and Supply Code Regulations, 2010 of JERC as amended from time to time.

In case of non-realization of payment through Cheque, a penalty of 5% of the cheque amount in addition to the Delayed Payment Charges (DPC) will be levied on the consumers.

19. Time of Day Tariff (ToD):

- i) Under the Time of Day (ToD) Tariff, electricity consumption and maximum demand in respect of HT/EHT consumers for different periods of the day, i.e. normal period, peak load period and off-peak load period, shall be recorded by installing a ToD meter.
- ii) The maximum demand and consumption recorded in different periods shall be billed at the following rates on the tariff applicable to the consumer.
- iii)

Time of use	Demand Charges	Energy Charges
Normal period (7:00 a.m. to 6:00 p.m)	Normal Rate	Normal rate of energy charges
Evening peak load period (6:00 p.m to 11.00 p.m)	Normal Rate	120% of normal rate of energy Charges
Off-peak load period (11:00 p.m to 7:00 a.m)	Normal Rate	90% of normal rate of energy Charges

iv) Applicability and Terms and Conditions of TOD tariff:

- a. TOD tariff is mandatory for HT/EHT consumers and shall be optional for LT industrial and commercial consumers.
- b. The facility of aforesaid TOD tariff shall not be available to HT/EHT consumers having captive power plants and/or availing supply from sources other than GED through wheeling of power.
- c. The HT/EHT industrial consumers who have installed standby generating plants shall also be eligible for the aforesaid TOD tariff.
- d. In the event of applicability of TOD tariff to a consumer, all other terms and conditions of the applicable tariff shall continue to apply.

Tariff Schedule

A TARIFF SCHEDULE -LT CONSUMERS

Low Tension Category - Applicable to Power Supply of Voltages at 230V and 400V Voltages when the Sanctioned Load is below 100 KVA/90 KW / 120 HP and power is supplied at single/ /three phase.

1 (A) TARIFF LTD/DOMESTIC

APPLICABILITY

This schedule shall apply to private residential houses, government residential quarters, charitable institutions or educational institutions aided by State/Central Board, colleges aided by Goa University and religious institutions etc for consumption of energy using normal domestic appliances.

TARIFF

Consumption Slab	Fixed Charges (Rs/connection/month)	Energy Charges (Paise/kWh)
(a) 0-100 units	Single Phase Rs. 20/Month Three Phase Rs. 45/Month	130
(b) 101-200 units		190
(c) 201 to 400 units		310
(d) Above 400 units		360

Note

- The applicable monthly minimum charges for Single Phase connection would be Rs. 100 per month and monthly minimum charges for Three Phase connection would be Rs.300 per month.
- The premises or flats which are closed or locked for continuous period of more than three months and having sanctioned/connected load more than 10 kW, the monthly minimum charges would be Rs. 1000/-.

1 (B) TARIFF LTLIG/LOW INCOME GROUP**APPLICABILITY**

This schedule shall apply to consumers of low Income Group who have a sanctioned load of up to 0.1 kW (primarily 2 points with 2 x 40 watts) and who consume up to 30 units per month only.

TARIFF

Description	Rs/connection/ Month
Upto 2 Point	30.00

Note:-

The applicability of the Low Income Group category will be assessed at the end of each month and in case the consumption exceeds above 30 units per month then entire such consumption would be billed at the rate of LTD-/Domestic for that particular month.

1 (C) TARIFF LTDM/DOMESTIC MIXED**APPLICABILITY**

This schedule shall apply to Houses with rent back facilities, Government hospitals, residential premises used by professionals (like Lawyers, Doctors {only those using OPD/consultancy}, Professional Engineers, Chartered Accountants, etc.) in furtherance of their professional activity in their residences for consumption of energy for mixed purposes.

TARIFF

Consumption Slab	Fixed Charges (Rs/connection/month)	Energy Charges (Paise/kWh)
First 400 units	Single Phase – Rs. 45/Month	325
Above 400 units	Three Phase – Rs. 65/Month	450

Note

- a. The applicable monthly minimum charges for Single Phase connection would be Rs. 350 per month and monthly minimum charges for Three Phase connection would be Rs. 500 per month.

2) TARIFF-LTC/COMMERCIAL**APPLICABILITY**

This category would apply to a LT category not specifically included elsewhere and also to a LT category although specifically included elsewhere, in a category commanding lower tariff, is misused and used for commercial purpose. It would include non-residential, non-industrial premises and/or commercial premises where electricity is used for commercial purposes. It would include the following categories but not limited to:

- Commercial Complexes and Business premises, including Shopping malls/show rooms, offices/shops;
- Combined lighting and power services for Entertainment including film studios, cinemas and theatres, including multiplexes, Race Course, Meeting/Town Halls, Clubs, all types of Guest houses;
- Offices including Government Offices, Commercial Establishments;
- Marriage Halls (including halls attached to religious places), Hotels/Restaurants (without boarding facilities), Ice-cream parlours, Bakery, Coffee Shops, private educational institutions, private hospitals, private messes, Internet/Cyber Cafes, Mobile Towers, Microwave Towers, Satellite Antennas used for telecommunication activity, Telephone Booths, Fax/Xerox Shops, X-ray installation, bars and cold drink houses, Tailoring Shops, Computer Training Schools, Typing Institutes, Photo Laboratories, Photo Studio, Laundries, Beauty Parlour & Saloons, all types of nurseries, dry cleaners etc.;
- Automobile and any other type of repair centres, Retail Gas Filling stations, Petrol Pumps & Service Stations including Garages, Tyre Vulcanizing units, Battery Charging Units, Tyre vulcanizing centres etc.;
- Banks, Telephone Exchanges, TV Station, Micro Wave Stations, All India Radio(AIR) Stations, ATM Centres etc.;
- For common facilities, like Water Pumping/Street Lighting/Lifts/Fire Fighting, Pumps/ /Premises (Security) Lighting, etc. in Commercial Complexes;
- Sports Club, Health Club, Gymnasium, Swimming Pool;
- Tissue Culture, Mushroom activities, Aquaculture, Floriculture, Fisheries, Sericulture etc.;
- Research & Development units situated outside Industrial premises;
- Airports, Railways, Railway Station, Bus stand of KTC etc.;

TARIFF

Consumption Slab	Fixed Charges (Rs/connection/month)	Energy Charges (Paise/kWh)
0-200 units	0-20 kW - Rs. 50/Conn/ Month	390
201 units- 400 units	Above 20kW-70 kW Rs.50/Conn/month + additional Rs.55/kW for every kW increase above 20 kW	430
Above 400 units		470

Note

- a. The applicable monthly minimum charges for consumers in the slab 0 to 20 kW would be Rs.400 per month and consumers in the slab above 20 kW would be Rs.2000 *per month*.

3 TARIFF-LTI/INDUSTRIES**APPLICABILITY**

This tariff shall apply to consumers as industrial units engaged in industrial activities, manufacturing process etc. It would include the following categories but not limited to:

- Flour Mills, wet grinding, Dal Mills, Rice Mills, Poha Mills, Masala Mills, Saw Mills, Power looms including other allied activities like Warping, Doubling, Twisting, etc.;
- Ice Factory, Ice Cream Manufacturing units/Plants, Dairy Testing Process, Milk Diaries, Milk Processing/Chilling Plants (Dairy) etc.;
- Engineering workshops, Engineering Goods Manufacturing units, Printing Press, Transformer repairing Workshops, Tyre retreading units, Motive Power Load etc.;
- Mining, Quarry & Stone Crushing units etc.;
- Garment Manufacturing units;
- LPG/CNG Bottling plants etc.;
- Sewage Water Treatment Plant/Common Effluent Treatment Plant owned, operated and managed by Industrial Association and situated within industrial area;
- Pumping of water for public water supply, Sewage Treatment Plants, activities related with public water Supply Schemes and Sewage Pumping Stations;
- Use of electricity/power supply for activities/facilities exclusively meant for employees of the industry within the premises of the Industry;
- IT Industry, IT parks etc.

TARIFF

Description	Fixed Charges	Energy Charges
	(Rs/HP/month)	(Paise/kWh)
(a) 0-500 units	30.00	310
(b) Above 500 units	30.00	350

4 TARIFF-LTP/MIXED (HOTEL INDUSTRIES)**APPLICABILITY**

This schedule shall apply to Hotels/restaurants with lodging and boarding facilities.

TARIFF

Fixed Charges Rs/kW/month	Energy Charges (Paise/kWh)
30.00	450

Note

Hotel Industry consumers intending to avail the facility of this tariff should produce the certificate from Tourism Department stating that the intending applicant is registered under Goa Registration of Tourist Trade Act, 1982 and in Hotel business on regular basis. Such tariff shall be made applicable only from the date of receipt of such certificate. In case of failure to produce the certificate, the same shall be considered under Commercial category.

5) TARIFF-LTAG/AGRICULTURE**APPLICABILITY**

This schedule shall apply to establishments for Irrigation pumping and Agricultural purposes. It would include the following categories but not limited to:

- Poultry, Piggery etc.;
- Horticulture, Green Houses, Plantations etc;
- Cane crusher and/or fodder cutter for self-use for agricultural processing purpose, but shall not be applicable for operating a flour mill, oil mill or expeller in the same premises, either operated by a separate motor or change of belt drive.

TARIFF

Fixed Charges Rs/HP/month	Energy Charges (Paise/kWh)
12.00	130

Note

This tariff shall be applicable from the date of production of a certificate from the Directorate of Animal Husbandry or Agriculture Department of Government of Goa to the effect that the consumer carried on the said activity on regular basis. In case of failure to produce the certificate, the same shall be considered under Commercial category.

6) TARIFF-LTPL/PUBLIC LIGHTING**APPLICABILITY**

This schedule shall apply to public lighting systems. It would include the following categories but not limited to:

- Market Places Road, Pathways and Parking Lighting belonging to local authorities such as Municipality/Panchayats/Government;
- Lighting in Public Garden;
- Traffic Signals and Traffic Islands;
- State Transport Bus Shelters;
- Public Sanitary Conveniences; and
- Public Water Fountain and such other Public Places open for general public free of charge.
- Street lighting in the colony of a factory which is situated separately from the main factory.
- This shall also be applicable to public lighting of Government/Semi-Government Establishments but shall not be applicable in case of private establishment

TARIFF

Fixed Charges Rs/kW/month	Energy Charges (Paise/kWh)
40.00	390

7) TARIFF-LTH Hoarding/Sign Board**APPLICABILITY**

This schedule shall apply for lighting advertisements, hoardings and displays at departments stores, malls, multiplexes, theatres, clubs, hotels, bus shelters, Railway Stations etc and shall be separately metered and charged at the tariff applicable for "Hoardings/Sign Board" category. However use of electricity for displays for the purpose of indicating/displaying the name and other details of the shop, on commercial premises itself, shall be covered under the prevailing tariff for such shops or commercial premises.

TARIFF

Fixed Charges Rs/kVA/month	Energy Charges (Paise/kWh)
60.00	690

8) TARIFF-LTTS/TEMPORARY**APPLICABILITY**

- LT Temporary Domestic:** This schedule shall apply to usage of electricity for all religious purposes or public functions for non-commercial purposes. It shall also apply for construction of own house by an individual with single tenement
- LT Temporary Commercial:** This schedule shall apply to usage of electricity for any of the activities not covered under LT Temporary Domestic.

It would include but not limited to:

- All other Constructions including renovation, of all type of structure/infrastructure, including buildings, bridge, flyover, dam, power stations, road, aerodrome, tunnels laying of pipe line for all purpose.

TARIFF

	Energy charges (Paise/unit)	Minimum charges (Rs.)
LT Temporary Domestic	700	Rs. 60 per kW per month or part thereof subject to a minimum of Rs.300/- per connection per month or part thereof
LT Temporary Commercial	990	Rs. 100 per kVA per month or part thereof subject to a minimum of Rs.500/- per connection per month or part thereof

Note

- The above temporary connection shall be released through a proper meter
- The above temporary tariffs are applicable for temporary supply for a period not exceeding three month which may be extended beyond that period only with the prior permission of the Chief Electrical Engineer, up to a maximum period of six months for general purpose and two years for construction activities.
- Security deposit shall be collected in advance for an assessed 3 months billing.

B HIGH TENSION SUPPLY

High Tension/ Extra High Tension Category - Applicable to Power Supply of Voltages at 11KV/ 33KV/ 110KV i.e High/Extra High Voltages when the Contracted Demand is above 100 KVA/ 90 KW / 120 HP and power is supplied at three phase

9 TARIFF - HTI/INDUSTRIAL**APPLICABILITY**

This schedule shall apply to consumers taking electricity supply for Industrial purpose. It shall also include the following categories:

- Bulk Supply of power at 11 KV, 33 kV/110 KV and above for industries, factories and other industrial purposes;
- Bulk supply of power at 11 KV and above for educational institutions owned or aided by Government, non-industrial establishment;
- Industrial units engaged in Ice Manufacturing Units;
- Hotels with lodging and boarding facilities etc.;
- Use of electricity/power supply by an establishment such as IT Industries, IT Parks, IT Units;
- Pumping of water, public water supply, public water treatment plant, activities related with Supply Schemes and Sewage Treatment Plants, Sewage Pumping Stations etc.

TARIFF

	Energy charges (Paise/unit)	Fixed charges (Rs/kVA/month)
Connected at 11/33kV	390	250
Connected at 110kV	380	250

**10) HT INDUSTRIAL (FERRO METALLURGICAL/STEEL MELTING/POWER INTENSIVE/
/STEEL ROLLING)****APPLICABILITY**

This schedule shall apply to supply of power having a Contract Demand from 100 KVA up to 1000 KVA at 11 KV and above 1000 KVA at 33 KV for Steel rolling industry and Metal Alloy, Steel Melting, Ferro Alloy, and Ferro metallurgical industries all types of Ferro alloy units where melting is involved using electric power.

TARIFF

Particulars	Fixed Charges Rs/kVA/month	Energy Charges (Paise/kWh)
For all units	325	380

11) TARIFF HTC/COMMERICAL**APPLICABILITY**

This tariff is applicable to any HT supply activity not specifically covered in any other HT consumer categories or although covered in another activity, the use is made for a commercial category. It would include electricity used in all non- residential, non-industrial premises and/or commercial premises for commercial consumption meant for operating various appliances. It would include the following categories but not limited to:

- Commercial Complexes and Business premises, including Shopping malls/show rooms, offices/shops;
- Combined lighting and power services for Entertainment including film studios, cinemas and theatres, including multiplexes, Race Course, Meeting/Town Halls, Clubs, all types of Guest houses;
- Offices including Government Offices, Commercial Establishments;
- Marriage Halls (including halls attached to religious places), Hotels/
- Restaurants (without boarding facilities), Ice-cream parlours, Bakery, Coffee Shops, private educational institutions, private hospitals, private messes, Internet/Cyber Cafes, Mobile Towers, Microwave Towers, Satellite Antennas used for telecommunication activity, Telephone Booths, Fax/Xerox Shops, X- ray installation, bars and cold drink houses, Tailoring Shops, Computer Training Schools, Typing Institutes, Photo Laboratories, Photo Studio, Laundries, Beauty Parlour & Saloons, all types of nurseries, dry cleaners etc.;
- Automobile and any other type of repair centres, Retail Gas Filling stations, Petrol Pumps & Service Stations including Garages, Tyre Vulcanizing units, Battery Charging Units, Tyre vulcanizing centres etc.;
- Banks, Telephone Exchanges, TV Station, Micro Wave Stations, All India Radio (AIR) Stations, ATM Centres etc.;
- For common facilities, like Water Pumping/Street Lighting/Lifts/Fire;
- Fighting Pumps/Premises (Security) Lighting, etc. in Commercial Complexes;
- Sports Club, Health Club, Gymnasium, Swimming Pool;
- Tissue Culture, Mushroom activities, Aquaculture, Floriculture, Fisheries, Sericulture etc.;
- Research & Development units situated outside Industrial premises;
- Airports, Railways, Railways Station, Bus stand of KTC etc.;

TARIF

Fixed Charges Rs/kVA/month	Energy Charges (Paise/kWh)
250	440

12) TARIFF HTAG/AGRICULTURE**APPLICABILITY**

This schedule shall apply to establishments for Irrigation pumping and Agricultural purposes. It would include the following categories but not limited to:

- Poultry, Piggery etc.;
- Horticulture, Green Houses, Plantations etc.;
- Cane crusher and/or fodder cutter for self-use for agricultural processing purpose, but shall not be applicable for operating a flour mill, oil mill or expeller in the same premises, either operated by a separate motor or change of belt drive.

TARIFF

Fixed Charges Rs/kVA/month	Energy Charges Paise/kWh
35.00	140

13) TARIFF HTD/DOMESTIC**APPLICABILITY**

This schedule shall apply to individual residential consumers of Bungalows, Villas, Cottages, etc. using normal domestic appliances and whose contract demand falls within the threshold limit of HT category.

TARIFF

Fixed Charges Rs/kVA/month	Energy Charges (Paise/kWh)
150.00	440

14) HT. MES/DEFENCE ESTABLISHMENTS**APPLICABILITY**

H.T. MES/Defence Establishments: This schedule shall apply to supply of power for defence installation establishments, having mixed load with predominantly lighting or non-industrial load of more than 50% of connected load.

TARIFF

Fixed Charges Rs/kVA/month	Energy Charges (Paise/kWh)
175	370

15) Tariff HTTS/TEMPORARY SUPPLY**APPLICABILITY**

This schedule shall apply to usage of electricity for all temporary purposes.

TARIFF

Energy Charges Paise/unit	Minimum/Fixed Charges (Rs./kW/day)
990	Rs. 120 per kVA per day or part thereof

Note

- (i) The above temporary connection shall be released through a proper meter
- (ii) The above temporary tariffs are applicable for temporary supply at high voltage for a period not exceeding three months which may be extended with prior permission of the Chief Electrical Engineer, up to a maximum period of six months for general purpose and two years for construction activities.
- (iii) Security deposit shall be collected in advance for an assessed 3 months billing.

Single Point Supply/Distribution Franchisee Arrangement:

ED Goa has submitted that it has started receiving enquiries and applications for single point supply/Distribution Franchisee arrangement from various consumers/applicants such as Townships, Residential Complexes, including Group Housing Societies, IT Park, Industrial Estates, Commercial Complexes, including Malls etc.

One of the applicants, falling in mixed category, has submitted that majority of its consumers qualify for LT connection but some also fall under HT connection by virtue of the sanctioned load limits and they indicated the desire of getting supply at single point. Another applicant has submitted that although some consumers by virtue of contracted demand would qualify for HT connection, yet they are desirous of LT supply by EDG owing to nature of their load. The applicant is willing to install substation, Distribution Transformer and its switchgear/ /equipment's at its own costs, and is also willing to bear the cost of supply as input at the HT end of DT. However, it wants EDG to bill all the consumers directly.

ED-Goa is willing to accommodate the practical needs of its consumers and submits that these consumers/applicants could be accommodated under Single Point Supply/Distribution Franchisee Arrangement.

The Commission therefore approves Single Point Supply/Distribution Franchise Arrangement, along with Tariff Mechanism.

Schedule of Miscellaneous Charges for FY 2015-16

Description	Existing Charge	Approved Charges
1) Monthly Meter Rental Charges (as per provisions of Regulation 7.3 (1) of JERC (Electricity Supply Code) Regulations 2010)		
Single Phase LT meter	Rs. 5/month	Rs. 10/month
Three Phase LT meter	Rs.10/month	Rs. 20/month
Three Phase LT meter with CTs	-	Rs. 50/month
LT Meter with MD Indicator	-	Rs. 30/month
Tri-vector Meter	Rs. 500/month	Rs. 1000/month
Temporary Supply	Shall be twice as	Shall be twice as
	applicable in above meter types	applicable in above meter types
Changing or moving a Meter board	Actual Cost + 15%	Actual Cost + 15%
Note:		
(a) For all domestic and other LT loads less than 50 kW loads in Urban and Rural areas		
- Static single phase/three phase meters		
(b) For LT (contracted load \geq 50 KW) / HT / EHT consumer – Static, 3 Phase Tri-vector meters with MDI (MD Display)		
2) Reconnection Charges		
(as per provisions of Regulation 9.3 (c) of JERC (Electricity Supply Code) Regulations, 2010)		
LT Services – At Cut outs		
□ Single Phase	Rs. 10/-	Rs. 25/-
□ Three Phase	Rs. 20/-	Rs. 50/-
LT Services – At Overhead Mains		
□ Single Phase	Rs. 15/-	Rs. 30/-

Description	Existing Charge	Approved Charges
☐ Three Phase	Rs. 30/-	Rs. 50/-
LT Services – At Underground Mains		
☐ Single Phase	Rs. 50/-	Rs. 75/-
☐ Three Phase	Rs. 100/-	Rs. 125/-
HT Services	Rs. 100/-	Rs. 200/-
Note:		
If the same consumer seeks reconnection within 12 months from the date of reconnection or disconnection, 50% will be added to above charges		
3) Re-Rating of Installations		
Lighting Installation	Rs. 10/-	Rs. 25/-
Motive Power Installation	Rs. 25/-	Rs. 50/-
4) Testing Fee for Various Metering Equipments		
(as per provisions of Regulation 7.4 of JERC (Electricity Supply Code) Regulations, 2010		
Single phase LT	Rs. 10/energy meter	Rs. 25/energy meter
Poly Phase LT without CT	Rs. 25/energy meter	Rs. 50/energy meter
L.T. meter with CTs/Demand or Special Type	Rs. 100/energy meter	Rs. 150/energy meter
Meters		
H.T & E.H.T. metering equipment	-	Rs. 10000/- at site
Transformer Oil	Rs. 100/-	Rs. 200/- per sample
3 – Ø Phase Tri-vector Meter Industrial LT	-	Rs. 1000/- for
Consumer		laboratory testing
3 – Ø Phase Tri-vector Meter 11 KV & 33 kV	-	Rs. 5000/- at site
HT Consumer		
Three Phase Tri-Vector Meter 110 KV EHT	No testing facility	Rs. 1000/- at site
Consumers	with MRT	
Combined CTPT Unit for 11kV & 33kV	Rs. 1000/-	Rs. 2500/-
Consumer		
110KV CT/PT Unit		Rs. 10000/-
Single Phase CT	-	Rs. 150/ unit
Three Phase TT Block	Rs. 200/unit	Rs. 500/unit
Distribution Transformer Testing (HT con.)		Rs. 6000
Power Transformer Testing (EHT consumer)		Rs. 20000
5) Service Connection Charges		
(as per provisions of Regulation 3.3 (3) of JERC (Electricity Supply Code) Regulations 2010		
Single Phase	Rs. 150	Rs. 250
Three Phase	Rs. 300 to Rs. 900	Rs. 500 to Rs. 1200

Description	Existing Charge	Approved Charges
HT (First 500 KVA)	Rs. 5000	Rs. 10000
HT (Beyond 500 KVA)	Rs. 1500 per 100KVA	Rs. 20000
Extra Length for Single Phase (beyond 30 metres)	Rs.15 /meter	Rs. 50 /meter
Extra Length for Three Phase (beyond 30 metres)	Rs. 40/meter	Rs. 100 /meter
6) Testing Consumer's installation		
(as per provisions of Regulation 4.10 (6) of JERC (Electricity Supply Code) Regulations, 2010		
For first test of the new installation on or off an extension to an existing installation if the installation is found to be defective.	-	NIL
For Subsequent test of the new installation or of an existing installation if the installation is found to be defective		
• Single phase LT	-	Rs. 100/-
• Three phase	-	Rs. 200/-
• MS/BS loads upto 70kW	-	Rs. 4000 + ST
• LS/BS/RT (loads Above 70kW)	Rs. 4850 + ST	Rs. 8000 + ST
7) Changing the Meter or its position in the same premises at the request of the consumer when no additional material is required		
(as per provisions of Regulation 6.3 c) of JERC (Electricity Supply Code) Regulations 2010		
Single phase	-	Rs. 100/-
3-phase without C.Ts	-	Rs. 200/-
L.T. meter with C.T.s	-	Rs. 500/-
H.T & E.H.T. metering equipment	Rs. 4850 + ST	Rs. 8000 + ST
8) Re-sealing charges irrespective of the number of seals involved against each item below and where seals found to have been broken by the consumer		
Meter cupboard / Meter Cubical / Box	-	Rs. 50/-
Where cut-out is independently sealed	-	Rs. 50/-
Meter cover or Meter Terminal cover	-	Rs. 50/-
Meter cover of Meter Terminal cover (3 phase).	-	Rs. 50/-

Description	Existing Charge	Approved Charges
Maximum demand Indicator or C.T.s chamber	-	Rs. 50/-
9) Service Charges		
General Supply		
• Single Phase	Rs. 5/-	Rs.10/-
• Three phase below 70kW	-	Rs. 20/-
• Three phase above 70kW	Rs. 5/-	Rs. 50/-
Industrial/bulk/agriculture/Street Lightning Supply		
• Upto 70kW	-	Rs. 25/-
• Above 70kW	Rs. 25/-	Rs. 50/-
10) Replacement of broken glass		
Replacement of broken glass of meter cupboard (When there is default on Consumer Side)	-	Rs. 50/-
Replacement of broken Glass of single phase meter if the consumer has broken or tamper and with meter.	-	Rs. 50/-
Replacement of broken Glass of three phase meter if the consumer has broken or tamper and with meter	-	Rs. 50/-
11) Supply of duplicate copies of electricity Bills		
Domestic Consumers	-	Rs. 5 per bill or
		Rs. 10 per statement
		-
		-
Non Domestic consumers	-	
LT Industrial up to 20kW & AP Consumer	-	
H.T Industrial & Bulk supply consumer	-	Rs. 5 per bill or Rs. 10 per statement

**JOINT ELECTRICITY REGULATORY COMMISSION****(FOR THE STATE OF GOA & UNION TERRITORIES)**2nd Floor, HSIIDC Office Complex, Vanijya Nikunj Complex, Udyog Vihar,
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Email: secretaryjerc@gmail.com Website: www.jercuts.gov.in**Petitions No. 160/2015 and 161/2015**

JERC issued Tariff order in Petition Nos. 160/2015 and 161/2015 on Aggregate Revenue Requirement (ARR) and Tariff Determination for Electricity Department Goa for Financial Year 2015-16 dated 06th April, 2015

ADDENDUM**Dated: 16th April, 2015**

1. In the Tariff Order dated 6th April, 2015 of Electricity Department, Goa at Page 260 and in Para 2 at Page 272 (Tariff – LTC/Commercial) in the Tariff Table, “Above 20KW -70 KW” be read as “Above 20KW -90 KW”.
2. Following is numbered as Para 16 at Page No. 282:-
“Single Point Supply / Distribution Franchisee Arrangement”
3. Following is added after Para No. 16 at Page No. 283:-

Tariff for Single Point Supply (SPS) at HT Level:

Applicability: This schedule shall apply to a group of consumers who desire to take a HT connection at single point for consumption of energy within a Residential Complex – Group Housing Societies, Residential Housing Colonies, Cooperative Group Housing Societies, Township Area; Commercial Complexes, including Malls; Industrial Complexes, including IT Park, Bio-Parks or other entities classified as industries by Government of Goa.

Note: In case of a dispute on whether the complex can be classified as an industrial complex, a certificate from Industries Department, Government of Goa will be required.

The following shall be the different combinations for SPS in a defined area:

- (i) An all LT consumer mix area

- (ii) All HT consumer mix area
- (iii) HT+LT consumer mix area

Approved Tariff:

The SPS applicant shall pay to ED-Goa the tariff as mentioned below, corresponding to the demand¹ and the input energy at the HT end of such supply:

Particulars	Fixed Charges (Rs/kVA/ Month)	Energy Charges (Rs/kWh)
Residential Complexes (RC)	100	3.10
Commercial Complexes (CC)	200	4.30
Industrial Complexes (IC)	200	3.90

Note:

- a) The General Conditions, Miscellaneous & General Charges would also be applicable for all SPS categories.
- b) Based on technical and administrative feasibility, the ED-Goa may consider providing SPS power supply at HV/ EHV level to a complex at a mutually agreed injection point.
- c) The SPS arrangement would be applicable for the application received from a Residential complex² / Association of Persons (AOP) / Developer of the complex or any other such similar person.
- d) The SPS arrangement would be considered by ED-Goa only if the minimum sanctioned cumulative contracted demand of the complex (group of consumers) is 1.15 MVA/ 1 MW.
- e) The complete cost of erection and O&M for the sub-transmission and distribution infrastructure within such complex would need to be borne by the said SPS applicant.
- f) The SPS applicant would be required to develop and maintain an efficient, co-ordinated and quality sub-transmission and distribution system in its area of electricity supply. Further, the applicant shall be responsible to comply with Standards of Performance and Supply Code Regulation as laid down under JERC Regulations and guidelines of Goa

¹Billing Demand would be as per pt 11 of 'General Conditions and Definitions' in the Chapter 11 of the Tariff Order for Financial Year 2015-16 dated 6th April, 2015.

² Once the society is formed, the developer has to change the applicant's name in favour of the society

Electricity Department, if any. The network within the complex will need to be certified by the Chief Electrical Inspector.

- g) For Residential Complexes, SPS application shall be entertained for group of LT consumers only. The loads of common amenities for such group may include pumps for pumping water supply, lifts and lighting of common area. However, the consumption of energy for common services shall be separately metered with meters installed by the consumer and tested and sealed by licensee. The consumption of such energy over and above 10% of the total consumption of energy shall be billed at LT Commercial Tariff. The user shall inform the details of every non-domestic activity, such as commercial complex, industrial activity, and recreation club, along with the connected load to the licensee at the time of seeking connection or at the time of enhancement in contract demand and shall seek a separate connection for the same in case the common load is more than 10%.
- h) Individual Domestic HT consumers in a residential complex that opts for SPS shall need to apply separately under HT Domestic category.
- i) The SPS applicant shall not charge tariff to the downstream consumers higher than stipulated above.
- j) The applicant shall be obliged to pay the total tariff (total billed amount) due to EDG, as measured at HT end of SPS. However, to cover energy transformation losses and other O&M expenses, such applicant would be eligible to get rebates from ED-Goa on full bill payment, within the due time:
 - i. 5% on the overall billed amount in case of Residential Complexes.
 - ii. For Commercial Complexes (CC) and Industrial Complexes (IC) with LT consumers in downstream, a 5% rebate will be given on the billed amount of the LT consumers. The applicant would provide bill summary of all consumers every month while claiming rebate. EDG will finalise such format at the time of processing application. However no rebate shall be given to applicant on the billed amount of any of the HT consumers of CC & IC.
 - iii. Any other loss would be to account of the applicant.
- k) For CC and IC applicant, any LT / HT Consumer in the area should have minimum 80% pre-dominant load of their appropriate category i.e. mix load is allowed only upto 20%. For e.g. If a HT/ LT Industry Consumer has Factory, Residential Colony for its workers and also some Commercial facilities for his staff and the total of Residential &

Commercial load is say around 30%, then separate Individual SPD connection may be taken for each such group as per activity.

- l) Other provisions not specifically mentioned here would be governed by the provisions in the general MYT petition of the EDG. However, in event of a conflict, the specific provisions herein above would apply for such SPS supply.

Sd/-
(S.K.CHATURVEDI)
CHAIRPERSON

Certified

(SECRETARY)
JERC
16.04.2015

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